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Current and temperature measurements in the North-East Atlantic during NEADS

A data report

by

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Summary

Starting in January 1977 longterm current and temperature measurements at three sites in the North-East Atlantic were carried out until Oct. 1980. The programme was part of the international NEADS (North-East Atlantic Dynamic Studies) experiment. Time series mainly in four levels from the upper thermocline down to 500 m above the bottom of up to 666 days have been obtained. The data are presented in form of statistics and energy-density spectra for the high frequency part of the series as well as statistics and time series plots of lowpass filtered data. Four XBT-sections from the southern part of the NEADS region are also shown.

Zusammenfassung

Im Nordostatlantik wurden von Januar 1977 bis Okt. 1980 auf drei Positionen Langzeitmessungen von Strömung und Temperatur durchgeführt.

Das Programm war Teil des internationalen Projekts NEADS (North-East Atlantic Dynamic Studies). Auf jeder Position wurde hauptsächlich in vier Niveaus von der oberen Hauptsprungschicht bis ca. 500 m über dem Boden gemessen. Die Längen der erhaltenen Zeitreihen betragen zwischen 150 und 666 Tagen. Die Daten werden in Form von statistischen Parametern und Spektren der Energiedichten für den hochfrequenten Teil der Zeitserien sowie als tiefpaßgefilterte Zeitserien mit der zugehörigen Statistik dargestellt. Vier XBT-Schnitte aus dem südlichen NEADS-Gebiet werden ebenfalls gezeigt.

Contents

1. Introduction

In 1976 SCOR WG 43 (Internal Dynamics of the Ocean) established the NEADS-(North East Atlantic Dynamic Studies) subgroup. The main aim of this group (Gould, 1976) was to coordinate Westeuropean efforts in field studies of mesoscale variability of currents and temperature in the eastern basin of the North Atlantic Ocean parallel to POLYMODE. Being aware of the limited resources of the participating institutes (COB Brest, IfM Kiel, MAFF Lowestoft, IOS Wormley) the group decided to set up a geographic statistical experiment at a few sites of the eastern basin (fig. 1) rather than a coherent dynamic one in a relative small area.

From late 1976 until October 1980 time series of a length up to two years are now available from nine different sites (see table 1) between 22°N to 52°N and 10°W to 25°W. They are completed by XBT-sections (Gould, 1978; Huber and Müller, 1977; Dickson and Gurbutt, 1979; Dickson and Gurbutt, 1980) that were run with high horizontal resolution (<50 km) during several mooring cruises. This report now presents the main features of the time series from sites 1, 2 and 2.5 for which IfM Kiel was responsible.

They are shown as statistics and energy density versus frequency spectra for their high frequency (>0.5 cpd) and as statistics and time series plots for the low-pass filtered data (<0.5 cpd). Four XBT-sections through the southern NEADS-area as well as air pressure data from five stations on the Azores, Canaries, Madeira, Portugal and a weather ship are also presented. A guide through the graphical presentation is given in the fold-out of the last page.

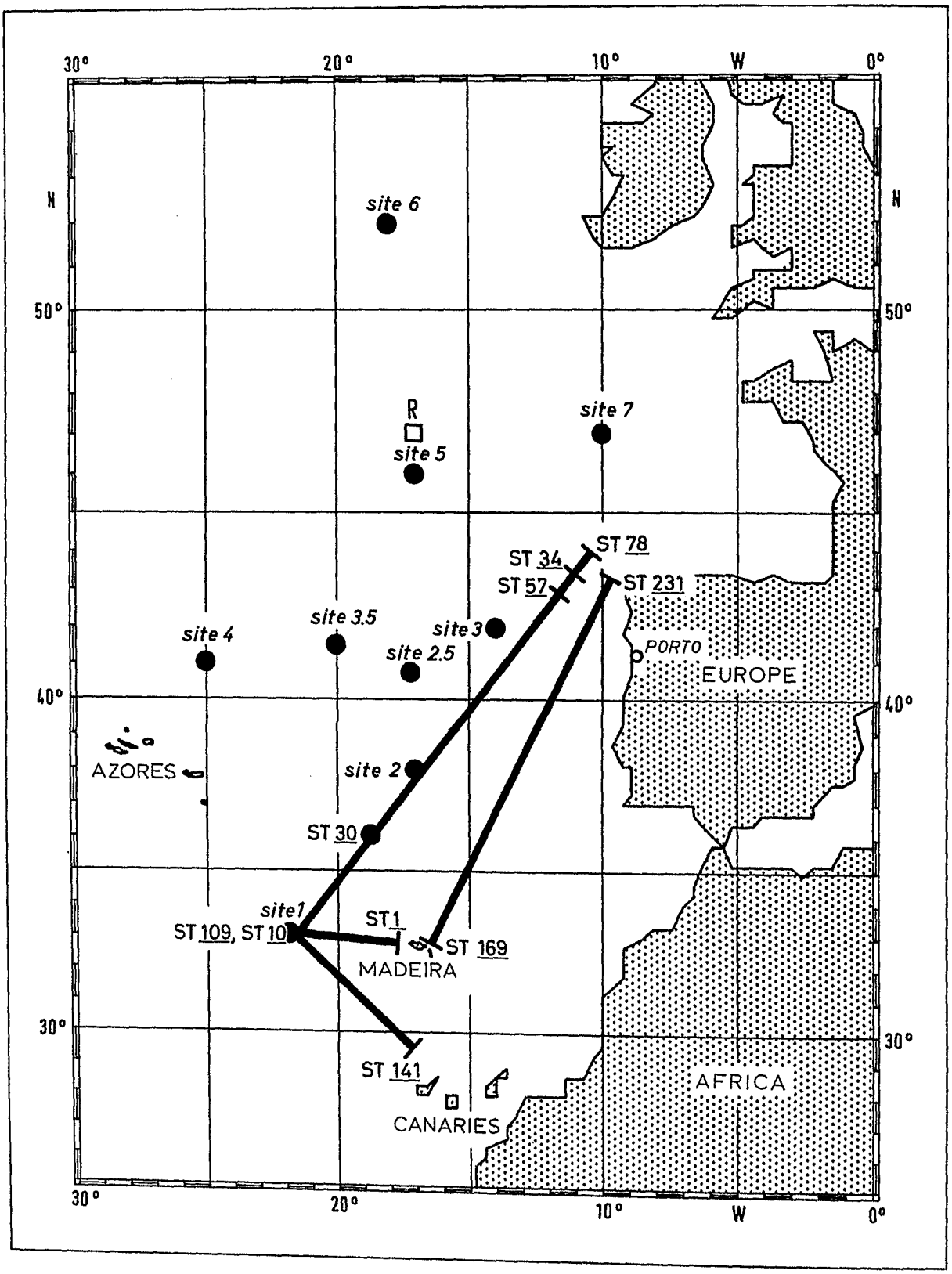


Fig. 1: Location of
a) NEADS mooring sites 1, 2, 2.5, 3, 3.5, 4, 5, 6, 7
b) XBT-section tracks of R.V. Meteor
cruise 44A, St. 141-109-34
cruise 44B, St. 169-231
cruise 46A, site 1-St. 30, Site 2-St.78
cruise 53A, St.1-10-57
c) Weather Ship position R

INSTITUTE	POSITION	SITE Nº DEPTH	DEPTH [m]	1976	1977	1978	1979	1980
IFM	33°N 22°W	1 5260m	24 125 379 673 935 1585 3089 4770					
IFM	38°N 17°W	2 5550m	788 1668 3168 4181 5079					
IFM	40°50'N 17°19'W	2.5 5310 m	485 2945 4050					
IOS	42°N 14°W	3 5325 m	600 1500 3000 4000					
IOS	41.5°N 20°W	3.5 3200 m	600 1000 1500 3000					
IOS	41°N 25°W	4 3634 m	600 1500 3000 3500					
IOS	46°N 17°W	5 4756 m	600 1500 3000 4000					
MAFF	52°N 18°W	6 4500 m	600					
COB	47°N 10°W	7 4500 m	600 1000 1500 3000 4000					

IFM: *INSTITUT FÜR MEERESKUNDE KIEL* IOS: *INSTITUTE OF OCEANOGRAPHIC SCIENCES, WORMLY* MAFF: *MINISTRY OF AGRICULTURE, FISHERIES AND FOOD, FISHERIES LABORATORY, LOWESTOFT* COB: *CENTRE OCEANOLOGIQUE DE BRETAGNE, BREST*

Table 1: Positon and time table of NEADS sites.
At site 1 in 1980 additional time series at 24m, 125m, 379m and 935m have been obtained.

2. Data processing

2.1. Current meter measurements

An overall view of available data from sites 1, 2, and 2.5 is given in table 2 (see also fig. 1 for positions). There are large gaps in the records, mainly due to battery problems after several months record time of the Aanderaa current meters in deep and cold water, or leakage through the conductivity cell. The latter problem has been overcome meanwhile by the company. Fig. 2 shows the typical mooring configuration with coated steel wire (Diepalon) down to 1500 m. Even after 13 months (site 2) only very weak corrosion was observed at instruments and other mooring components.

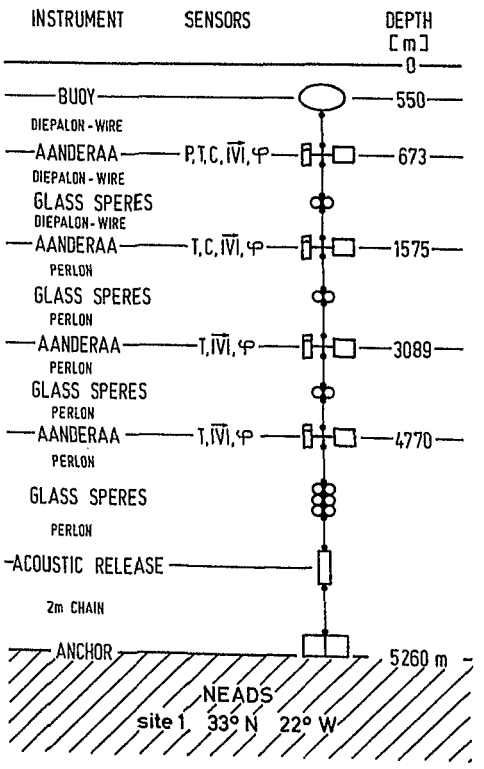


Fig. 2: Sketch of mooring design

Table 2: Sites 1, 2, 2.5

Available data from NEADS current meter moorings. Instruments were Aanderaa type with sensors for pressure (P), temperature (T), conductivity (C), current speed ($|\vec{v}|$), and current direction (φ)

	Instrument depth (m)	parameters measured	record length (days)	record distribution and IfM-reference No. 1977 — 1978 — 1979 — 1980	remarks
Site 1 33°05'N 22°00'W	24	P, T, C, $\|\vec{v}\|$	137	264 101	
	125	T, C, $\|\vec{v}\|$, φ	198	264 102	
	379	T, C, $\|\vec{v}\|$, φ	198	264 103	
bottom depth 5260 m (flat)	673	P, T, C, $\|\vec{v}\|$, φ	323, 198	184 101 — 264 104	
	935	T, C, $\|\vec{v}\|$, φ	198	264 105	
	1585	T, $\|\vec{v}\|$, φ	176	184 102 — 264 106	battery bad after 176 days, no data in 1980
	3089	T, $\|\vec{v}\|$, φ	323,198	184 103 — 264 107	
	4770	T, $\|\vec{v}\|$, φ	158, 198	184 104 — 264 108	battery bad after 158 days
Site 2 37°59'N 16°54'W	788	T, C, $\|\vec{v}\|$, φ	148, 400	203101 — 229 101	bad record in 1979/1980
	1668	P, T, C, $\|\vec{v}\|$, φ	148, 234	203102 — 242102	leakage in 1978/79; P only in 242102
	3168	T, $\|\vec{v}\|$, φ	148,270,234	203103 — 229103 — 242103	battery bad in 1979; often rotor stuck in 242103
bottom depth 5550 m (rough)	4181	T, $\|\vec{v}\|$, φ	198, 234	229104 — 242104	battery bad in 229104 after 204 days
	5079	T, $\|\vec{v}\|$, φ	148	203104	
Site 2.5 40°31'N 17°19'W	485	P, T, C, $\|\vec{v}\|$, φ	248	230101	
	2945	T, $\|\vec{v}\|$, φ	208	230103	start of tape bad
bottom depth 5310 m (flat)	4050	T, $\|\vec{v}\|$, φ	248	230104	

2.1.1. Calibration and data control

For calculating current speeds and directions from recorded values the formulas given by Aanderaa AS were used. Each sensor for temperature, pressure, and conductivity was recalibrated at the IfM Kiel. The results were as follows: for the low range temperature -2°C to 21°C and pressure in a few cases only minor corrections were necessary to the Aanderaa formula (less 0.05 K and less 0.5 % of pressure range). At and below the 3000 m level for temperature measurements the high resolution range -2°C to 5.6°C has been used. For this range the calibration seemed to have an offset. So all temperatures at these levels have been corrected for their mean value against historical and own CTD-data. The same holds for all conductivity cells which have been corrected against own CTD-measurements, comparing salinities. Thus all mean values of salinities as well as temperatures below the 3000 m-level are not independent from other in-situ data (see table 3 for applied corrections).

Mooring motion -although apparent- did not result in significant over-speeding of the rotors. Taking variances of high pass filtered (see 2.1.2. for procedure) pressure records and centering them to the period of the semidiurnal tide as representative for the high frequencies one estimates less than 0.2 cm/S overspeeding. For lowpass filtered data 0.02 cm/S result for the worst case. On the other hand the influence of mooring motion on temperature and salinity may be important.

2.1.2. High frequency analysis

At all sites the energy density spectra of kinetic energy show a minimum at periods of about two to four days. Therefore for the high frequency statistics all time series have been highpass filtered with a half amplitude response at 60 h and 1 % amplitude response at 85 h (fig. 3). The filter was of Lanczos type with a total of 253 weights, e.g. 126 weights to both sides of the central point (see Appendix 1). The formulas of the calculations of the statistical parameters are also given (Appendix 2).

Site	Mooring identification	Corrections T (K)	Corrections S (p.p.t.)	matched to
1	184 101	0	0.22	own CTD
	102	0.50	-	own CTD
	103	0.165	-	own CTD/IGY-data
	104	0.255	-	IGY-data
	264 101	0	0	
	102	0	0	
	103	0	0	
	104	0	0.10	184 101
	105	0	0	
	107	0.13	-	184 103
	108	0.19	-	184 104
2	203 101	0	-0.37	own CTD
	102	0.47	-0.09	own CTD
	103	0.19	-	own CTD
	104	0.18	-	IGY-data
	229 101	-0.05	+0.08	203 101
	103	0.10	-	203 103
	104	0.15	-	IGY-data
	242 102	0	-0.29	)
	103	0.10	-	) IGY-data
	104	0.235	-	)
2.5	230 101	0	0.76	IGY, uncertain
	103	0.24	-	)
	104	0.19	-	) IGY-data

Table 3: Corrections applied to temperature T and salinity S at sites 1, 2, 2.5.

Instead of high resolution time series plots, energy density spectra in the frequency range 0.5 cph to 0.002 cph are presented. They have been calculated for P, T, S, and for rotational velocity components u_+ and u_- (Willebrand et al., 1977). To achieve this, pieces of 512 hours length were detrended and applying FFT, 256 spectral estimates were calculated. Finally these estimates were averaged, in frequency ranges to result in not more than 20 estimates per decade, and over all pieces.

2.3. Low frequency analysis

Because of the gap in the energy density spectra at periods of about 2 to 5 days, all data were lowpass filtered with half amplitude response at 30 h and 1 % response at 24 h (fig. 3). After filtering, daily means were calculated, and from these the statistical parameters according to the formulas in the Appendix and the time serie plots result.

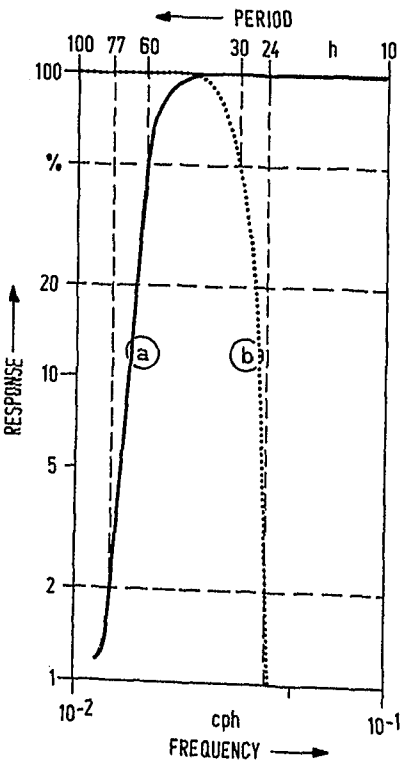


Fig. 3: Response functions of highpass and lowpass filter.

a) highpass filter, 253 weights, 50 % amplitude response at 60 h

b) lowpass filter, 133 weights, 50 % amplitude response at 30 h

2.2. XBT-sections

All XBT-sections were run during mooring cruises with R.V. 'Meteor'. Sections A of cruise 44 and that from cruise 53 were digitized manually, section B of cruise halfautomatically from analogue records. During cruise 46 the data were stored digitally on a cassette. The errors seem to be 0.1 K in temperature and 5 m in depth. Location and times of data acquisition may be seen in fig. 1 and the sections.

2.3. CTD-data

Unfortunately only two deep casts with the Kiel Multisonde have been obtained at sites 1 and 2. The data processing is standard and described by Peters (1978).

2.4. Air pressure

From dayly German weather maps (Deutscher Wetterdienst, Offenbach) dayly air pressure data of five stations (Santa Maria/Azores, Funchal/Madeira, Las Palmas/Gran Canaria, Porto/Portugal, and the Weathership on 47N, 17W) have been read out for the period 1 Jan. 1977 to 31 March 1980. Lowpass filtered 5-dayly means and spectra are presented.

Acknowledgements

The mooring work was mostly done on F.S. 'Meteor'. In May 1978 two members of IfM Kiel were as guests on R.V. 'Shackleton' for a mooring cruise. I would like to thank the crews of both ships for their skilled and experienced work. Thanks also to the IfM data group who did the drawing and typing.

The experiment was supported by the Deutsche Forschungsgemeinschaft under grants Mu 463/2-4.

References

DICKSON, R.R. and P. GURBUTT, 1979: A 5.500 km XBT-section from the North East Atlantic.
POLYMODE News No. 64, unpublished manuscript.

DICKSON, R.R. and P. GURBUTT, 1980: XBT-profiles from the northeast Atlantic in June 1979.
POLYMODE News No. 74, unpublished manuscript.

GONELLA, J., 1972: A rotary component method for analyzing meteorological and oceanographic vector time series.
Deep-Sea Res. 19, 833-846.

GOULD, J., 1976: Mesoscale monitoring in the eastern North Atlantic (North Atlantic Dynamic Studies).
POLYMODE News No. 13, unpublished manuscript.

GOULD, J., 1978: NEADS-XBT-sections.
POLYMODE News No. 43, unpublished manuscript.

HUBER, K. and T.J. MÜLLER, 1977: Two XBT sections from the southern part of the NEADS area.
POLYMODE News No. 37, unpublished manuscript.

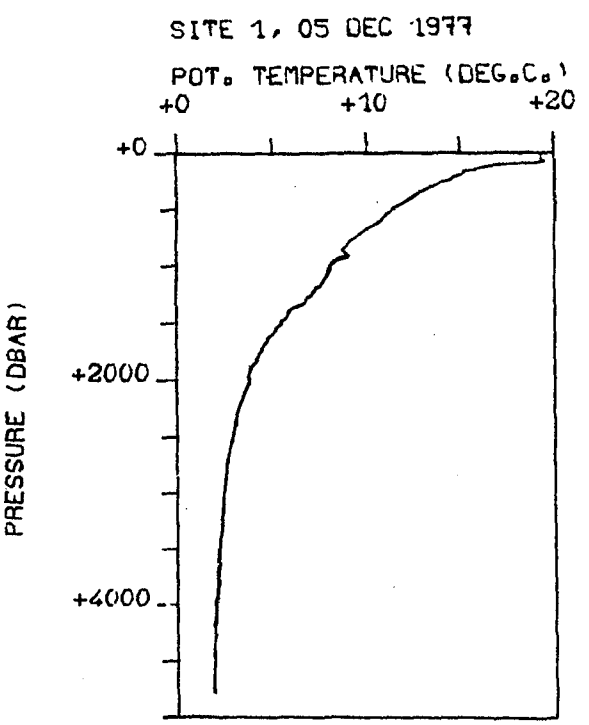
PETERS, H., 1978: A Compilation of CTD and Profiling Current Meter Data from GATE 1974, F.S. 'Meteor' and W.F.S. 'Planet "Meteor" Forsch.Ergebn., Reihe A, 20, 49-80.

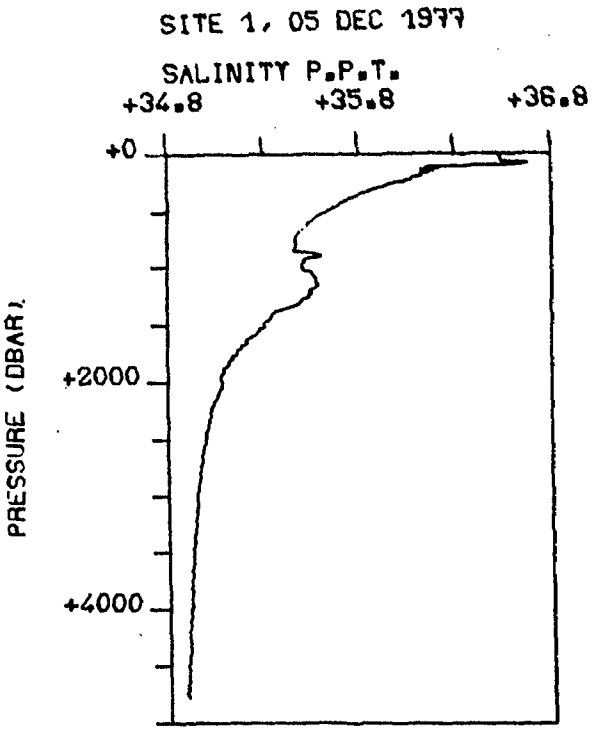
Willebrand, J., P. Müller and D.J. Olbers, 1977: Inverse Analysis of the Trimoored Internal Wave Experiment (IWEX), Part 1. Ber. Inst. f. Meereskunde a. d. Univers. Kiel, Nr. 20a.

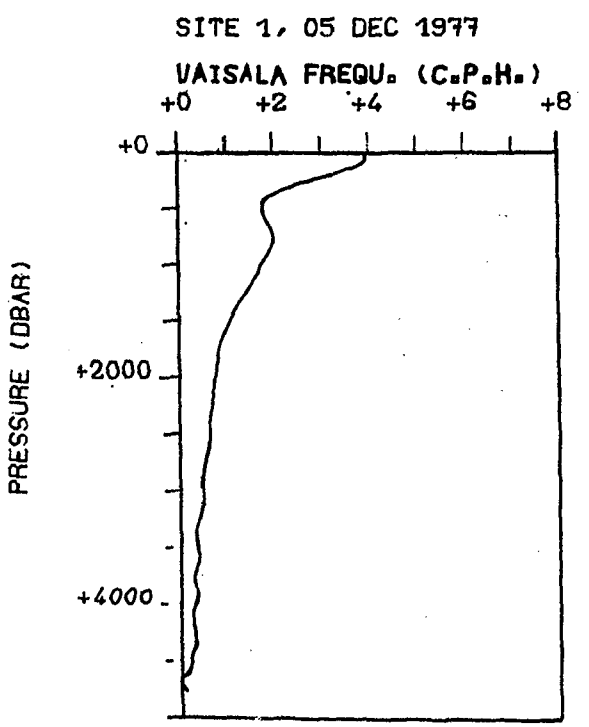
Graphical presentation

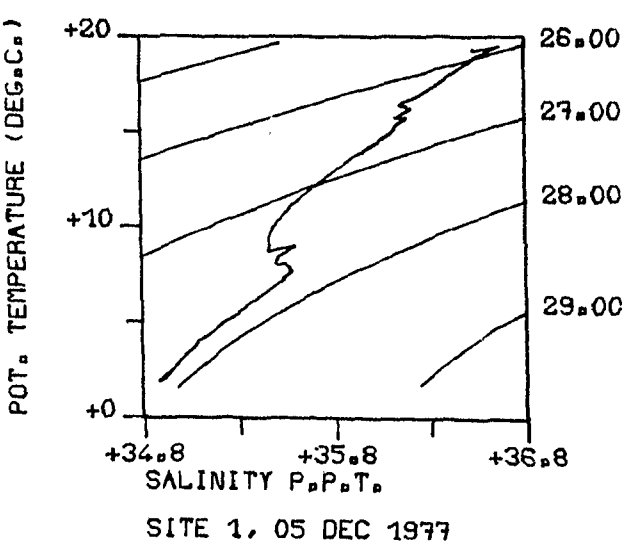
A detailed page-guide is enclosed on the outfold-pages 99 and 1oo.Results from mooring sites 1 and 2 are followed by XBT-sections and time series and spectra of air-pressure.

The presentations for sites 1 and 2 start with CTD-profiles. for each site the high-frequency analysis (statistics and spectra for each mooring and depth) and the low-frequency analysis (combined statistics,PVD's and time series) follow in this arrangement.The spectra contain the 95%-confidence limits.


SITE 1, 05 DEC 1977
POT. TEMPERATURE (DEG.C.)
+0
+10
+20
+0
+2000
+4000
PRESSURE (DBAR)


SITE 1, 05 DEC 1977
SALINITY P.P.T.
+34.8
+35.8
+36.8
+0
+2000
+4000
PRESSURE (DBAR)


SITE 1, 05 DEC 1977
VAISALA FREQU. (C.P.H.)
+0
+2
+4
+6
+8
+0
+2000
+4000
PRESSURE (DBAR)


+20
+10
+0
POT. TEMPERATURE (DEG.C.)
26.00
27.00
28.00
29.00
+34.8
+35.8
+36.8
SALINITY P.P.T.
SITE 1, 05 DEC 1977

FILE: NEADS SITE1 673 m MOORING ID: 184101 START-CYCLE: 1. STOP-CYCLE: 7515. NUMBER OF HOURS: 7515.

SAMPLING INTERVAL (MINUTES) : 0.600000+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	-0.1063E+02	0.1957E+02	-0.5412E-04	0.3366E-01	0.8514E+01	0.2918E+01	0.8167E+00	0.5896E+01
2	TEMP	[DEG.C]	-0.5100E+00	0.3951E+00	0.4329E-04	0.9682E-03	0.7045E-02	0.8394E-01	-0.8673E-01	0.3738E+01
3	SAL	[PPT]	-0.1825E+00	0.3296E+00	0.1728E-04	0.2014E-03	0.3049E-03	0.1746E-01	0.9987E+00	0.3297E+02
4	UC	[CM/S]	-0.2199E+02	0.1574E+02	-0.1962E-02	0.3363E-01	0.8501E+01	0.2916E+01	-0.2793E+00	0.5490E+01
5	VC	[CM/S]	-0.1457E+02	0.2198E+02	-0.5443E-03	0.3619E-01	0.9840E+01	0.3137E+01	0.1633E+00	0.4369E+01
6	SIGT	[ ]	-0.1560E+00	0.2723E+00	0.6192E-05	0.2034E-03	0.3108E-03	0.1763E-01	0.6337E+00	0.1746E+02

	PAIR	VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
4	5	0.2036E-02	0.9170E+01	0.3028E+01	0.3493E-01	254.49

FILE: NEADS SITE1 1585 m MOORING ID: 184102 START-CYCLE: 1. STOP-CYCLE: 3984. NUMBER OF HOURS: 3984

SAMPLING INTERVAL (MINUTES) : 0.600000+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.4030E+00	0.3260E+00	0.7933E-05	0.1302E-02	0.6755E-02	0.8219E-01	-0.5219E-01	0.3770E+01
2	UC	[CM/S]	-0.8133E+01	0.8737E+01	0.2881E-02	0.3165E-01	0.3992E+01	0.1998E+01	-0.6037E-01	0.4543E+01
3	VC	[CM/S]	-0.7105E+01	0.9054E+01	0.1247E-02	0.3189E-01	0.4052E+01	0.2013E+01	-0.2856E-02	0.3707E+01

	PAIR	VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.3140E-02	0.4022E+01	0.2005E+01	0.3177E-01	66.60

FILE: NEADS SITE1 3089 m MOORING ID: 184103 START-CYCLE: 1. STOP-CYCLE: 7515. NUMBER OF HOURS: 7515

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.3800E-01	0.4463E-01	0.3685E-05	0.1302E-03	0.1273E-03	0.1128E-01	0.6104E-01	0.2970E+01
2	UC	[CM/S]	-0.7532E+01	0.6113E+01	-0.4336E-03	0.2150E-01	0.3473E+01	0.1864E+01	-0.1411E+00	0.2702E+01
3	VC	[CM/S]	-0.5716E+01	0.8317E+01	0.3788E-03	0.1954E-01	0.2869E+01	0.1694E+01	0.8345E-01	0.3023E+01

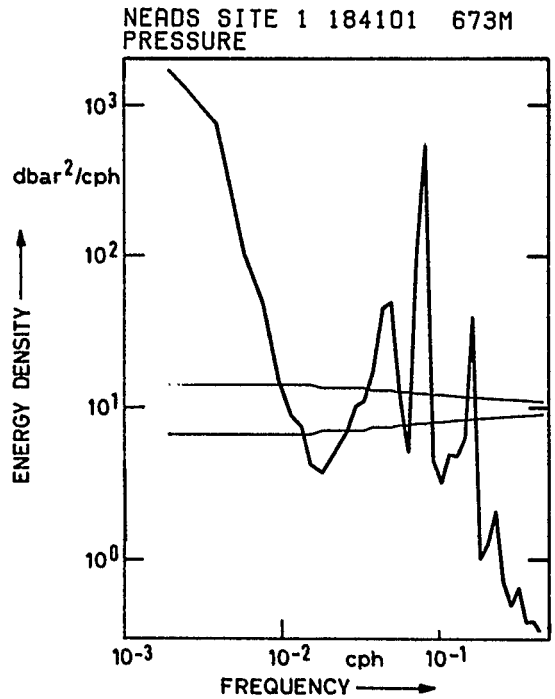
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.5758E-03	0.3171E+01	0.1781E+01	0.2054E-01	311.14

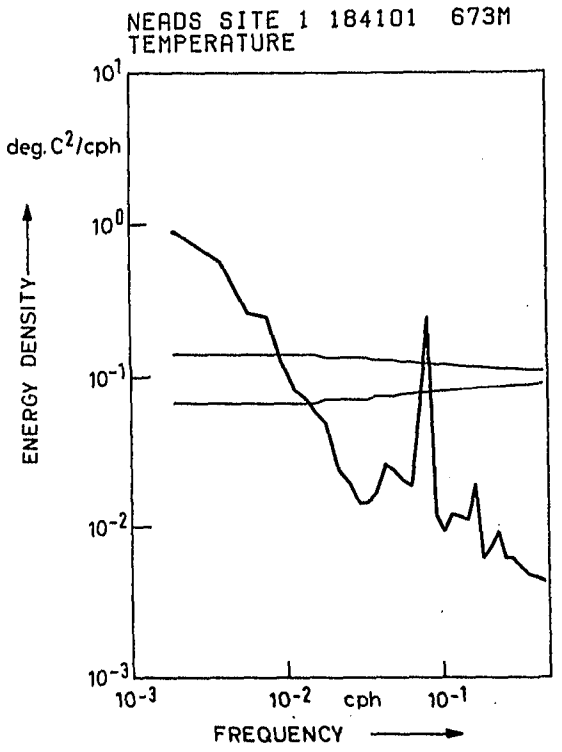
FILE: NEADS SITE1 4770 m MOORING ID: 184104 START-CYCLE: 1. STOP-CYCLE: 3547. NUMBER OF HOURS: 3547

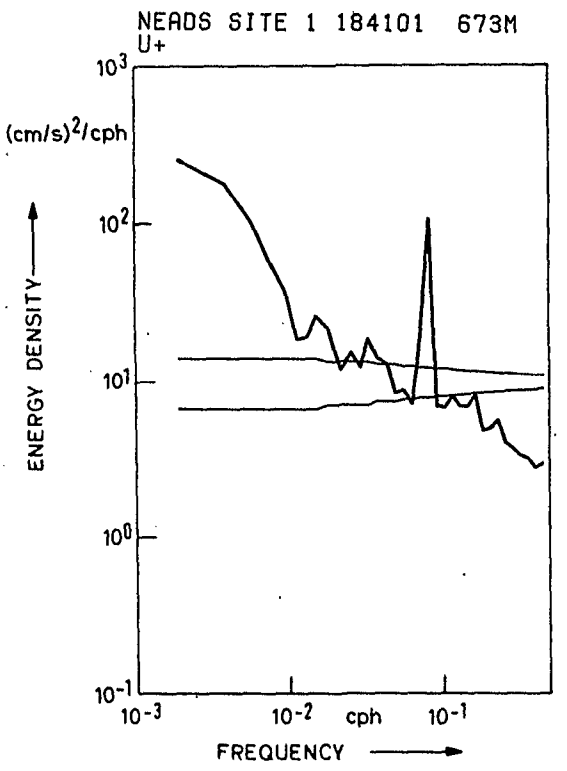
SAMPLING INTERVAL (MINUTES) : 0.60000D+02

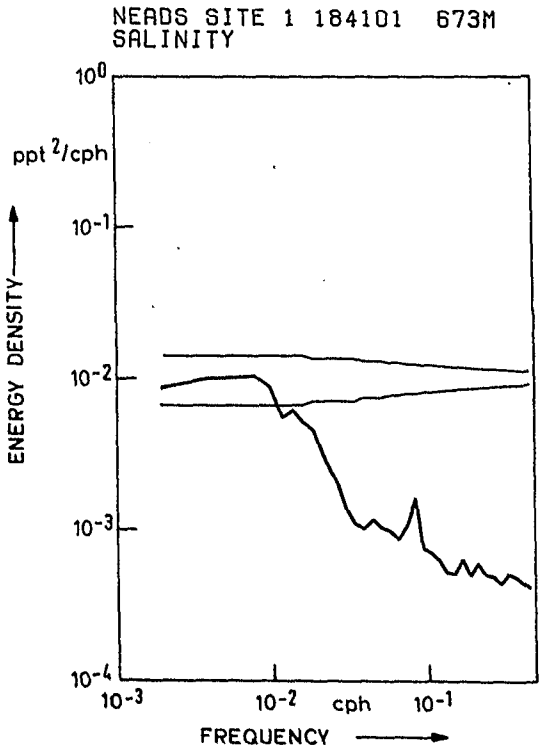
VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.1608E-01	0.1859E-01	-0.3251E-05	0.6481E-04	0.1490E-04	0.3860E-02	-0.6276E-01	0.3231E+01
2	UC	[CM/S]	-0.1236E+02	0.8268E+01	0.1373E-02	0.3079E-01	0.3362E+01	0.1834E+01	-0.3114E+00	0.4430E+01
3	VC	[CM/S]	-0.6912E+01	0.9136E+01	0.2869E-03	0.2834E-01	0.2848E+01	0.1688E+01	0.9567E-01	0.3227E+01

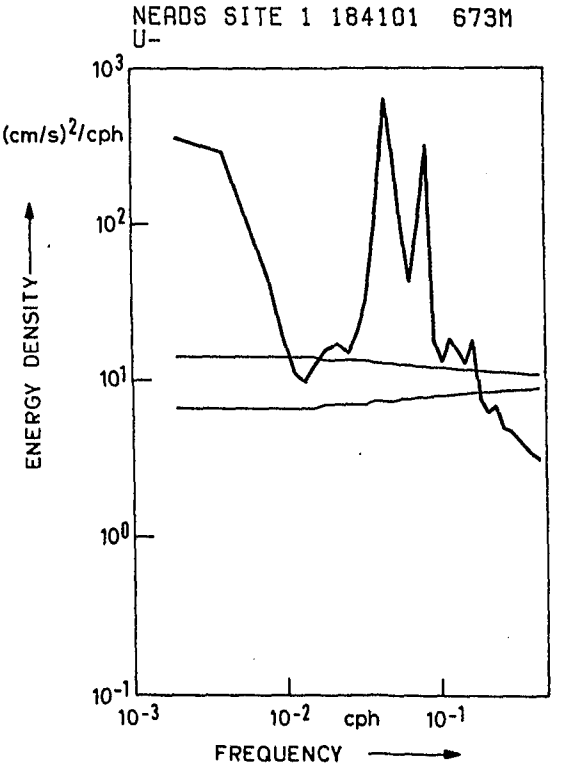
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1403E-02	0.3105E+01	0.1762E+01	0.2959E-01	78.20

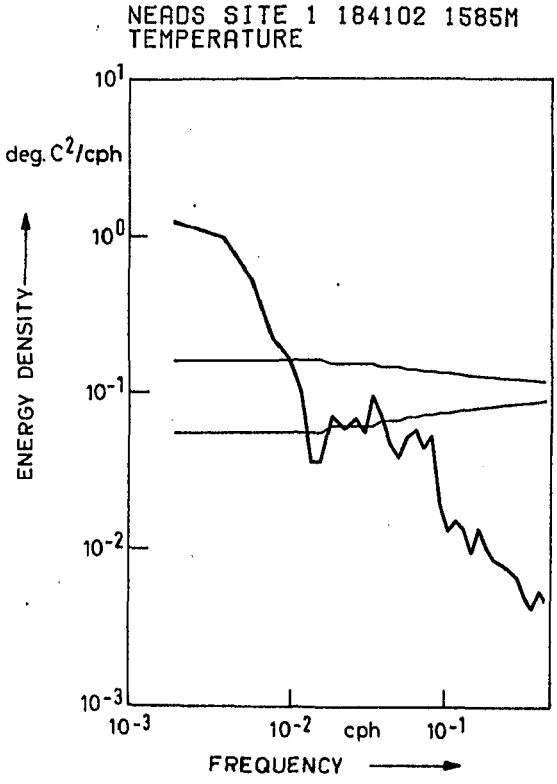

NEADS SITE 1 184101 673M
PRESSURE
10^3
dbar^2/cph
10^2
10^1
ENERGY DENSITY
10^0
10^{-3}
10^{-2}
cph
10^{-1}
FREQUENCY

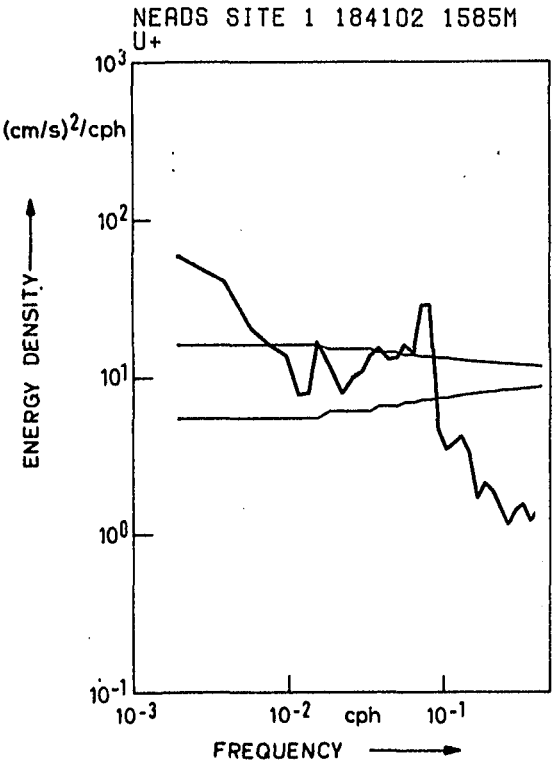

NEADS SITE 1 184101 673M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

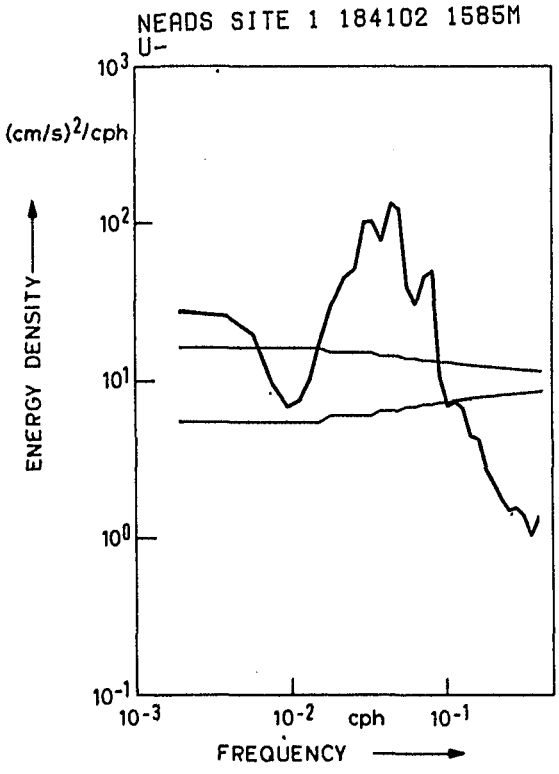

NEADS SITE 1 184101 673M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 184101 673M
SALINITY
ppt ²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 184101 673M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 184102 1585M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 184102 1585M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 184102 1585M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

FILE: NEADS SITE 1 24 m MOORING ID: 264101 START-CYCLE: 1. STOP-CYCLE: 4138. NUMBER OF HOURS: 4138.

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.1481E+01	0.2047E+01	-0.6956E-04	0.4266E-02	0.7531E-01	0.2744E+00	0.2194E+00	0.9857E+01
2	SAL	[PPT]	-0.1253E+01	0.1153E+01	0.1950E-03	0.2207E-02	0.2016E-01	0.1420E+00	-0.2130E+00	0.1805E+02
3	SIGT	[ ]	-0.1005E+01	0.8874E+00	0.1582E-03	0.1948E-02	0.1571E-01	0.1253E+00	-0.2972E+00	0.1374E+02
4	PRES	[DBAR]	-0.3285E+02	0.4112E+02	0.4374E-02	0.1281E+00	0.6794E+02	0.8243E+01	0.4218E+00	0.5961E+01

FILE: NEADS SITE 1 125 m MOORING ID: 264102 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.8899E+00	0.9774E+00	0.9354E-05	0.2703E-02	0.3311E-01	0.1820E+00	-0.8688E-01	0.5810E+01
2	SAL	[PPT]	-0.1819E+00	0.2122E+00	0.4842E-04	0.7147E-03	0.2314E-02	0.4811E-01	0.1703E+00	0.3515E+01
3	UC	[CM/S]	-0.1665E+02	0.1502E+02	-0.4194E-02	0.7409E-01	0.2487E+02	0.4987E+01	-0.1106E+00	0.3053E+01
4	VC	[CM/S]	-0.1795E+02	0.1356E+02	0.3335E-02	0.5300E-01	0.1273E+02	0.3568E+01	-0.2164E+00	0.4945E+01
5	SIGT	[ ]	-0.1567E+00	0.1995E+00	0.2984E-04	0.5946E-03	0.1602E-02	0.4002E-01	0.4178E+00	0.3981E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.5358E-02	0.1880E+02	0.4336E+01	0.6442E-01	308.49

FILE: NEADS SITE 1 379 m MOORING ID: 264103 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.4981E+00	0.4988E+00	0.4821E-04	0.1831E-02	0.1518E-01	0.1232E+00	-0.2085E-01	0.3624E+01
2	SAL	[PPT]	-0.1298E+00	0.9726E-01	0.3720E-04	0.3941E-03	0.7038E-03	0.2653E-01	-0.9244E-02	0.2871E+01
3	UC	[CM/S]	-0.1152E+02	0.1141E+02	-0.3624E-02	0.4984E-01	0.1126E+02	0.3355E+01	-0.1469E+00	0.2672E+01
4	VC	[CM/S]	-0.1329E+02	0.1103E+02	-0.3618E-02	0.4349E-01	0.8568E+01	0.2927E+01	-0.1885E+00	0.3700E+01
5	SIGT	[ ]	-0.1018E+00	0.8168E-01	0.1915E-04	0.3309E-03	0.4961E-03	0.2227E-01	-0.3235E-01	0.3120E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.5121E-02	0.9912E+01	0.3148E+01	0.4677E-01	225.05

FILE: NEADS SITE 1 673 m MOORING ID: 264104 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531.

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.3188E+00	0.3793E+00	0.7643E-04	0.1195E-02	0.6466E-02	0.8041E-01	-0.9060E-01	0.3521E+01
2	UC	[CM/S]	-0.1099E+02	0.1318E+02	0.4936E-03	0.5195E-01	0.1223E+02	0.3497E+01	-0.2540E-01	0.2577E+01
3	VC	[CM/S]	-0.1285E+02	0.8913E+01	0.3460E-02	0.3907E-01	0.6918E+01	0.2630E+01	0.9881E-01	0.3353E+01
4	PRES	[DBAR]	-0.3299E+02	0.3594E+02	0.8627E-04	0.8625E-01	0.3370E+02	0.5805E+01	0.8409E+00	0.1154E+02

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.3495E-02	0.9573E+01	0.3094E+01	0.4597E-01	8.12

FILE: NEADS SITE 1 673 m MOORING ID: 264104 START-CYCLE: 1. STOP-CYCLE: 4002. NUMBER OF HOURS: 4002

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	SAL	[PPT]	-0.1421E+00	0.1612E+00	0.1801E-04	0.4334E-03	0.7518E-03	0.2742E-01	-0.2680E+00	0.4043E+01
2	SIGT	[ ]	-0.1164E+00	0.1372E+00	0.8779E-05	0.3968E-03	0.6301E-03	0.2510E-01	-0.7990E-01	0.3784E+01

FILE: NEADS SITE 1 935 m MOORING ID: 264105 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.2905E+00	0.3570E+00	0.9876E-05	0.1111E-02	0.5596E-02	0.7481E-01	0.1563E+00	0.3803E+01
2	SAL	[PPT]	-0.1041E+00	0.1119E+00	0.2490E-04	0.4014E-03	0.7302E-03	0.2702E-01	-0.3964E-01	0.2851E+01
3	UC	[CM/S]	-0.1606E+02	0.1098E+02	-0.1969E-02	0.5017E-01	0.1141E+02	0.3377E+01	-0.1010E+00	0.2706E+01
4	VC	[CM/S]	-0.9952E+01	0.1039E+02	-0.2426E-02	0.4035E-01	0.7378E+01	0.2716E+01	0.1893E+00	0.3329E+01
5	SIGT	[ ]	-0.1021E+00	0.9788E-01	0.1764E-04	0.3371E-03	0.5150E-03	0.2269E-01	-0.2084E-01	0.2953E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.3124E-02	0.9392E+01	0.3065E+01	0.4553E-01	219.06

FILE: NEADS SITE 1 3089 m MOORING ID: 264107 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.4068E-01	0.4813E-01	0.2004E-05	0.1919E-03	0.1668E-03	0.1292E-01	0.3387E-01	0.3035E+01
2	UC	[CM/S]	-0.6414E+01	0.8124E+01	-0.2888E-02	0.3376E-01	0.5164E+01	0.2272E+01	0.1135E+00	0.2367E+01
3	VC	[CM/S]	-0.5649E+01	0.7014E+01	-0.1850E-02	0.2693E-01	0.3285E+01	0.1812E+01	0.2555E+00	0.2884E+01

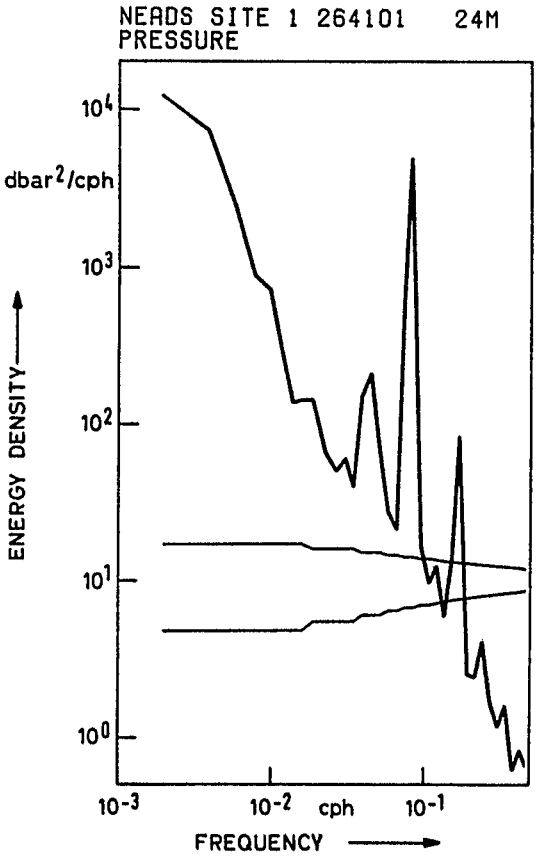
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.3430E-02	0.4225E+01	0.2055E+01	0.3053E-01	237.35

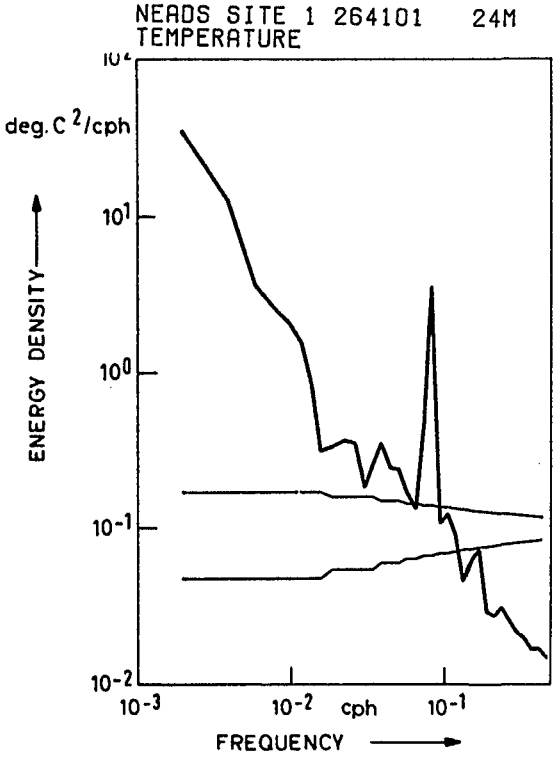
FILE: NEADS SITE 1 4770 m MOORING ID: 264108 START-CYCLE: 1. STOP-CYCLE: 4531. NUMBER OF HOURS: 4531

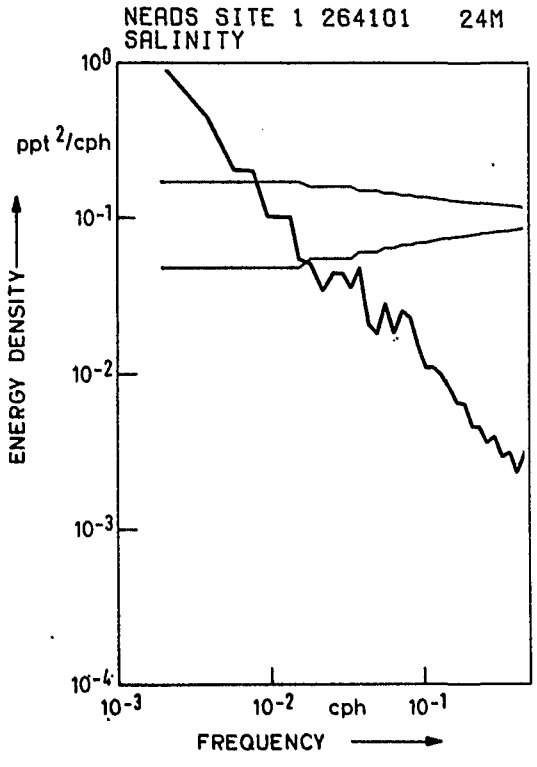
SAMPLING INTERVAL (MINUTES) : 0.60000D+02

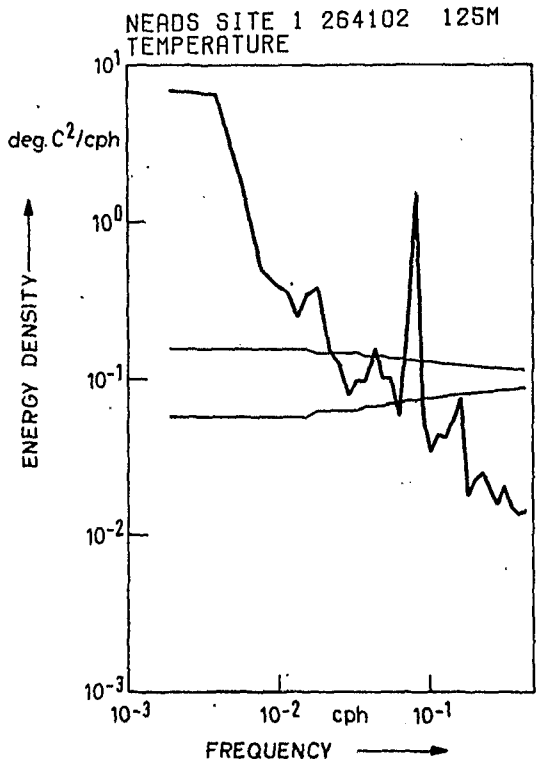
VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.8475E-02	0.8658E-02	0.7905E-06	0.3315E-04	0.4979E-05	0.2231E-02	-0.6093E+00	0.6344E+01
2	UC	[CM/S]	-0.5949E+01	0.6266E+01	-0.6544E-04	0.2515E-01	0.2867E+01	0.1693E+01	0.7765E-01	0.2956E+01
3	VC	[CM/S]	-0.7613E+01	0.7698E+01	0.5859E-03	0.2541E-01	0.2925E+01	0.1710E+01	0.8835E-01	0.3014E+01

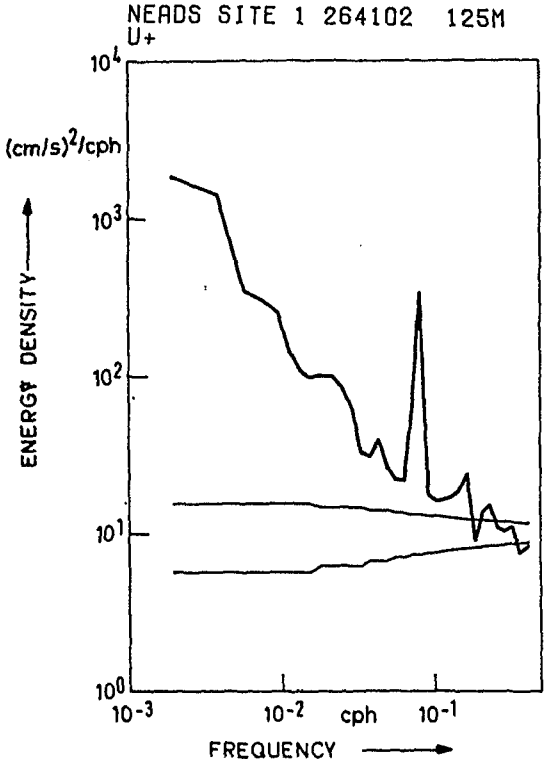
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.5896E-03	0.2896E+01	0.1702E+01	0.2528E-01	353.63

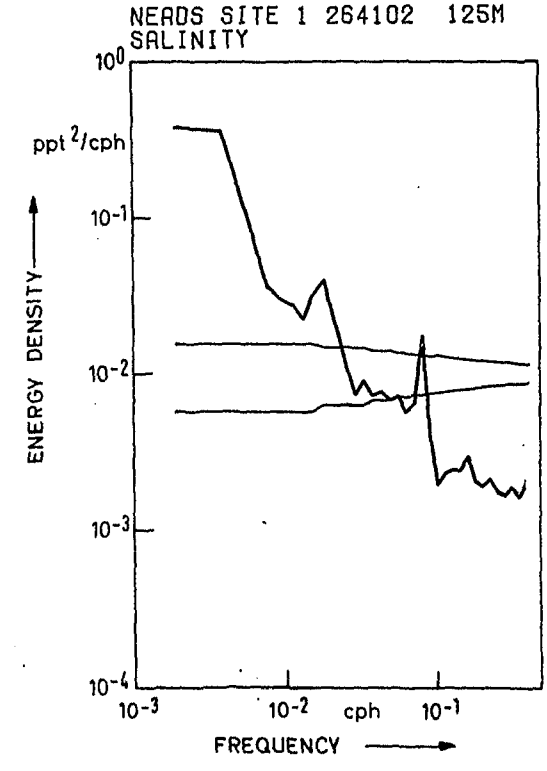

NEADS SITE 1 264101 24M
PRESSURE
ENERGY DENSITY
dbar²/cph
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

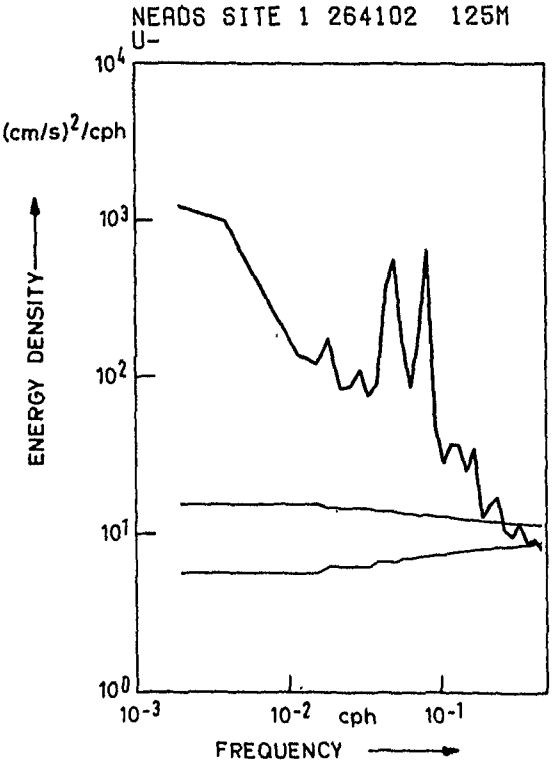

NEADS SITE 1 264101 24M
TEMPERATURE
ENERGY DENSITY
deg.C²/cph
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

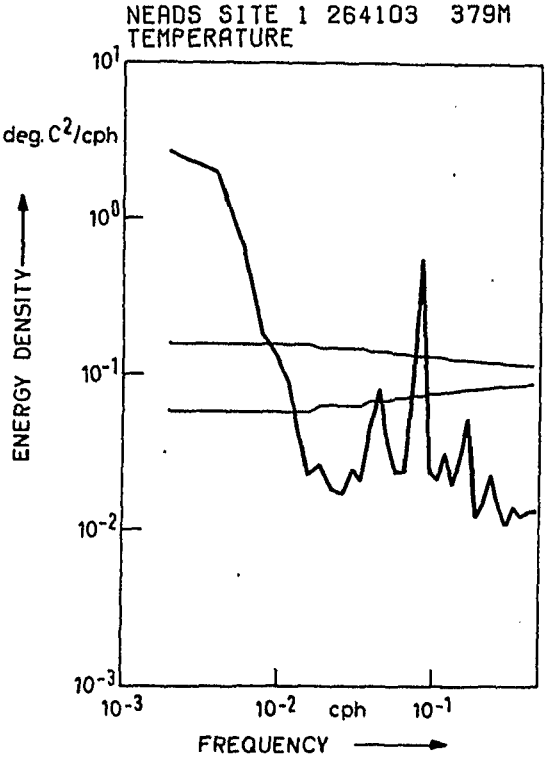

NEADS SITE 1 264101 24M
SALINITY
ENERGY DENSITY
ppt²/cph
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

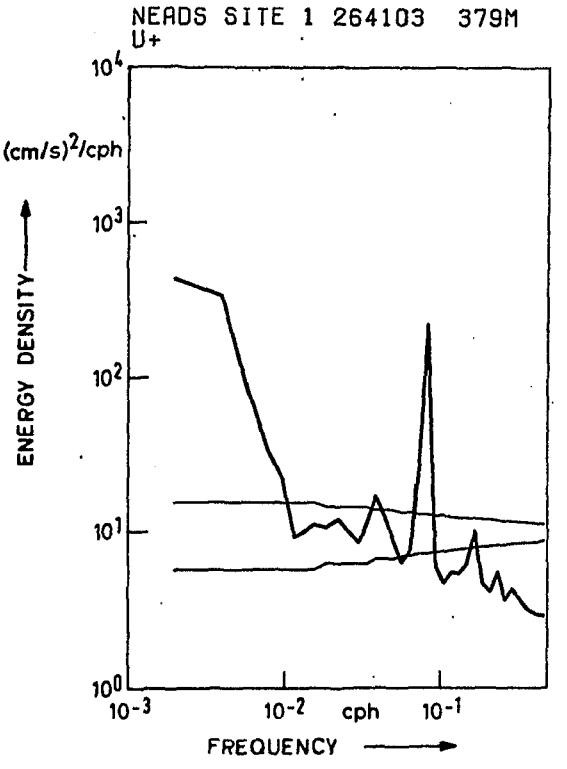

NEADS SITE 1 264102 125M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

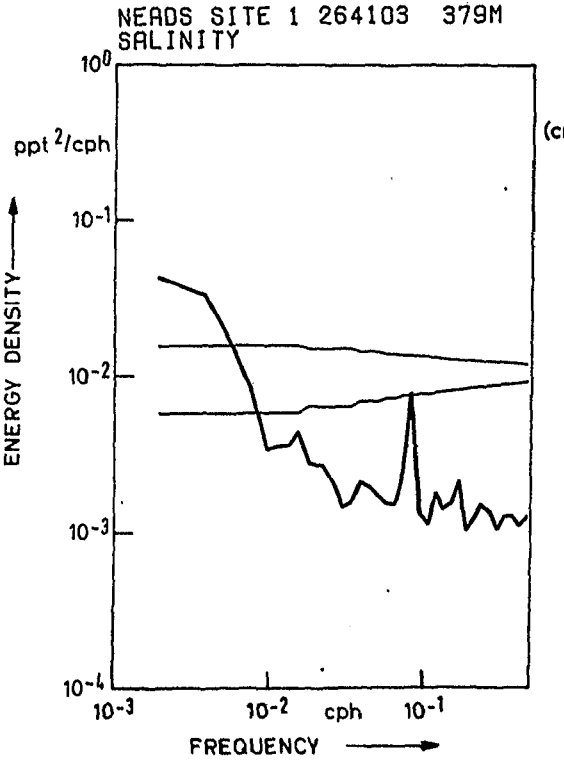

NEADS SITE 1 264102 125M
U+
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

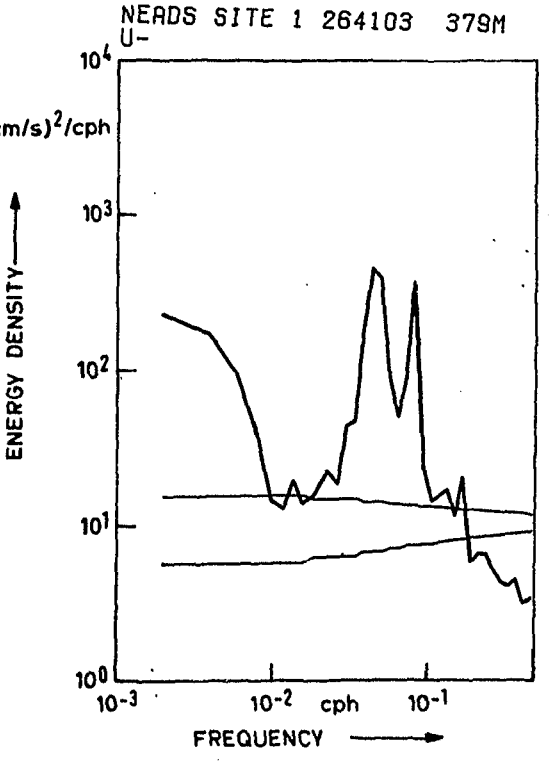

NEADS SITE 1 264102 125M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

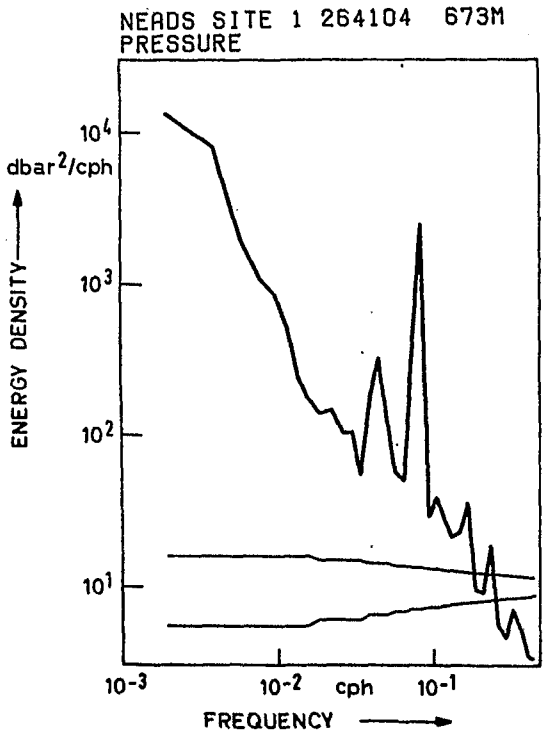

NEADS SITE 1 264102 125M
U-
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

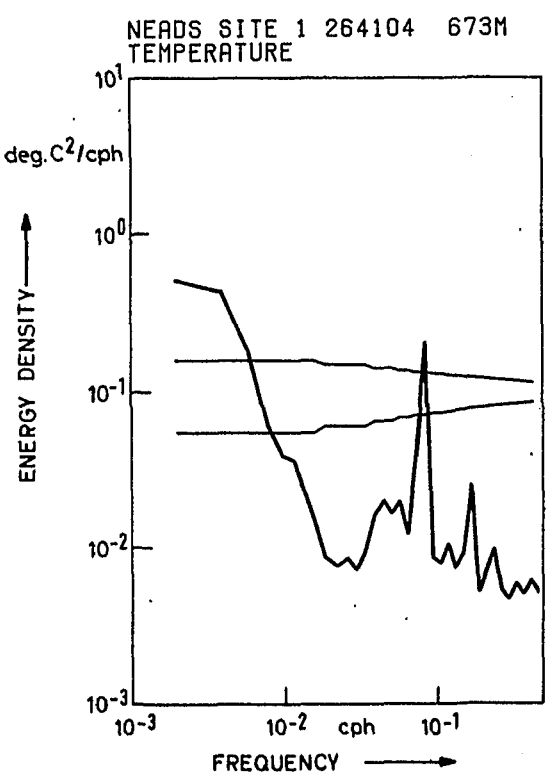

NEADS SITE 1 264103 379M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

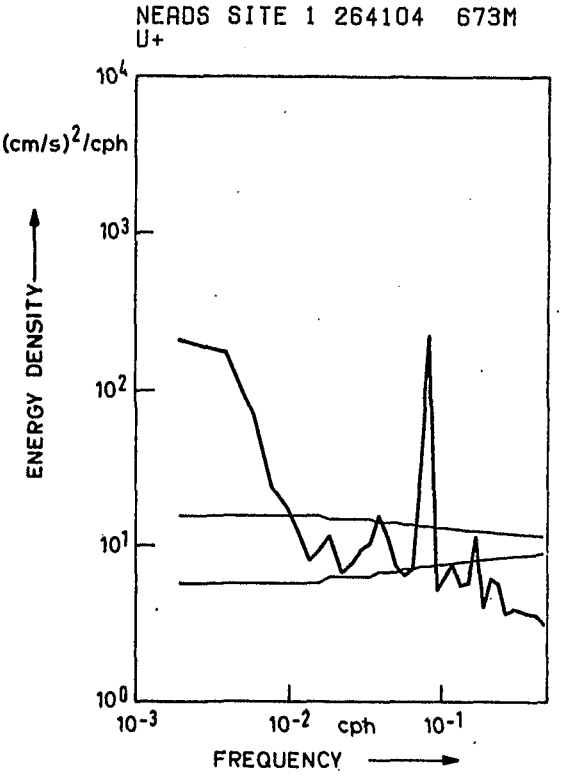

NEADS SITE 1 264103 379M
U+
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

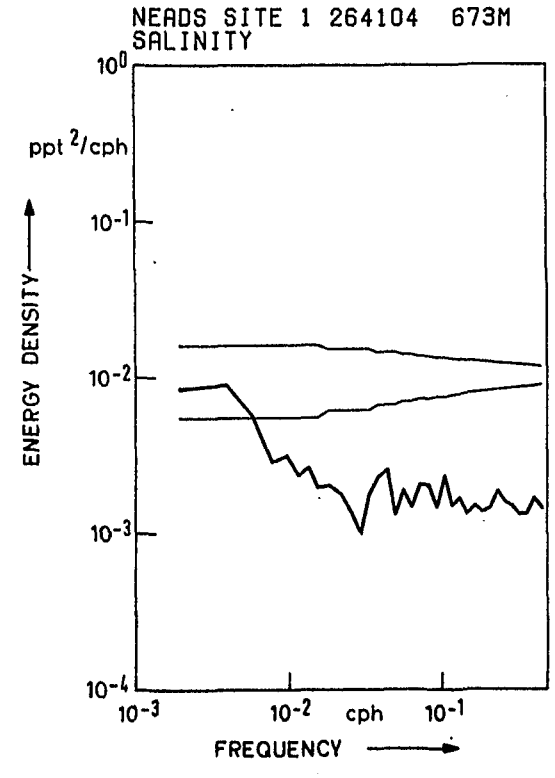

NEADS SITE 1 264103 379M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

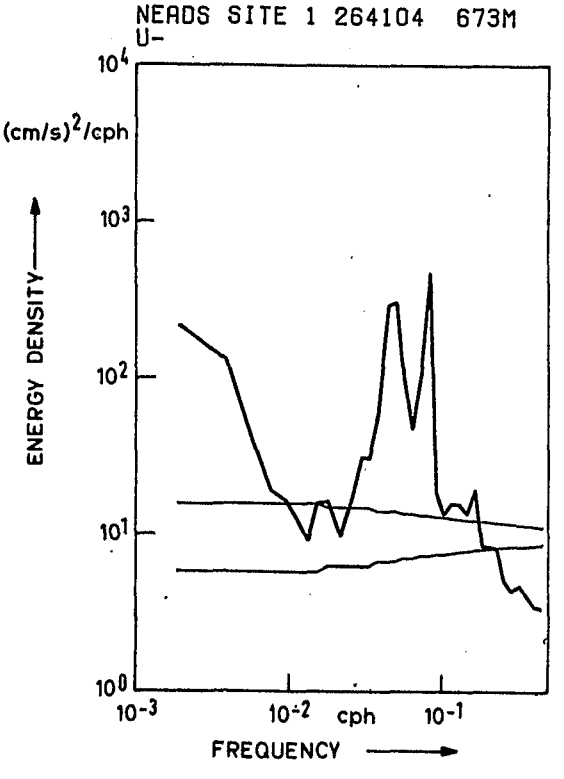

NEADS SITE 1 264103 379M
U-
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

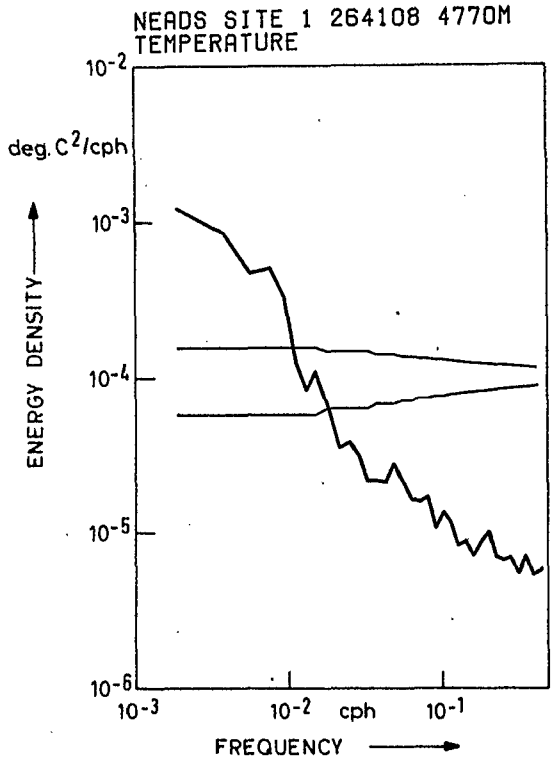

NEADS SITE 1 264104 673M
PRESSURE
ENERGY DENSITY
dbar²/cph
10⁴
10³
10²
10¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

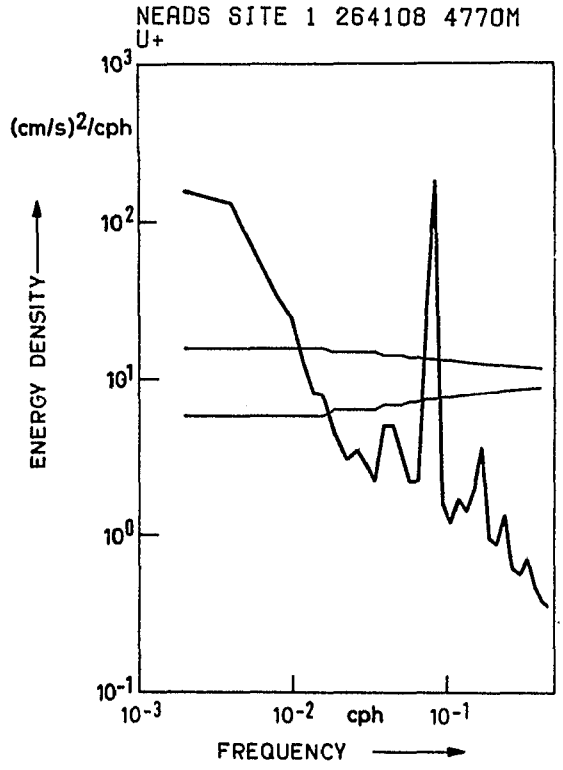

NEADS SITE 1 264104 673M
TEMPERATURE
deg.C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

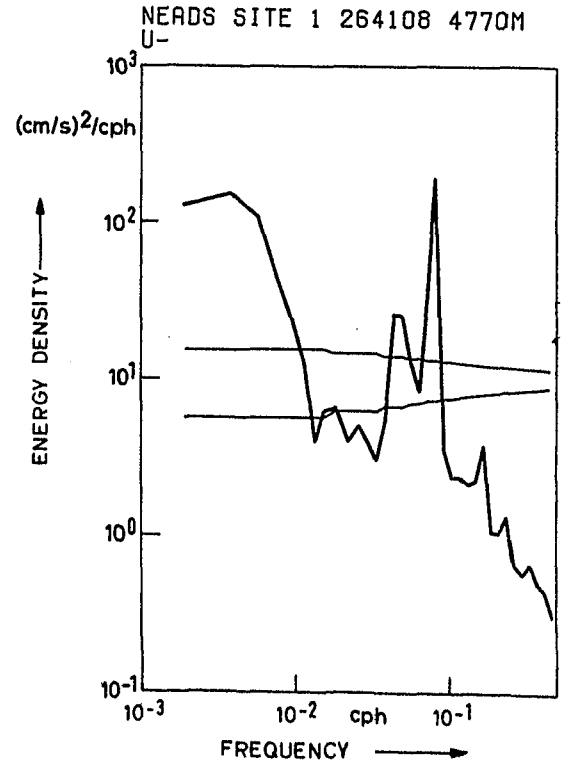

NEADS SITE 1 264104 673M
U+
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 264104 673M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 264104 673M
U-
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 264108 4770M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 264108 4770M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 1 264108 4770M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

FILE: NEADS SITE 1 24 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 133. NUMBER OF DAYS: 133

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	0.2631E+02	0.1046E+03	0.4634E+02	0.1759E+01	0.4114E+03	0.2028E+02	0.1252E+01	0.3440E+01
2	TEMP	[DEG.C]	0.1752E+02	0.2146E+02	0.1940E+02	0.9509E-01	0.1203E+01	0.1097E+01	0.4958E+00	0.1772E+01
3	SAL	[PPT]	0.3604E+02	0.3744E+02	0.3664E+02	0.3151E-01	0.1321E+00	0.3634E+00	0.2855E+00	0.2193E+01
4	SIGT	[ ]	0.2550E+02	0.2709E+02	0.2618E+02	0.3887E-01	0.2010E+00	0.4483E+00	0.3642E-01	0.1840E+01

FILE: NEADS SITE 1 125 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 193. NUMBER OF DAYS: 193

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS.	KURTOSIS
1	TEMP	[DEG.C]	0.1577E+02	0.1813E+02	0.1711E+02	0.4811E-01	0.4467E+00	0.6684E+00	0.3237E-01	0.1805E+01
2	SAL	[PPT]	0.3575E+02	0.3626E+02	0.3598E+02	0.1163E-01	0.2611E-01	0.1616E+00	0.4795E+00	0.1775E+01
3	UC	[CM/S]	-0.1830E+02	0.6725E+01	-0.2875E+01	0.3851E+00	0.2862E+02	0.5350E+01	-0.2913E+00	0.2273E+01
4	VC	[CM/S]	-0.2233E+02	0.1304E+02	-0.9165E+01	0.6187E+00	0.7388E+02	0.8595E+01	0.8619E+00	0.2995E+01
5	SIGT	[ ]	0.2617E+02	0.2641E+02	0.2625E+02	0.3720E-02	0.2671E-02	0.5168E-01	0.9524E+00	0.3071E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.9606E+01	0.5125E+02	0.7159E+01	0.5153E+00	197.42

FILE: NEADS SITE 1 379 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 193. NUMBER OF DAYS: 193

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.1259E+02	0.1413E+02	0.1327E+02	0.3229E-01	0.2012E+00	0.4486E+00	0.5503E+00	0.1925E+01
2	SAL	[PPT]	0.3519E+02	0.3557E+02	0.3535E+02	0.8520E-02	0.1401E-01	0.1184E+00	0.4197E+00	0.1785E+01
3	UC	[CM/S]	-0.7881E+01	0.3650E+01	-0.1767E+01	0.2067E+00	0.8247E+01	0.2872E+01	-0.3005E+00	0.1814E+01
4	VC	[CM/S]	-0.1630E+02	0.5944E+01	-0.6657E+01	0.3976E+00	0.3052E+02	0.5524E+01	0.6741E+00	0.2762E+01
5	SIGT	[ ]	0.2656E+02	0.2673E+02	0.2663E+02	0.2184E-02	0.9203E-03	0.3034E-01	0.2637E+00	0.3797E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.6888E+01	0.1938E+02	0.4403E+01	0.3169E+00	194.87

FILE: NEADS1 SITE1 673 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 510. NUMBER OF DAYS: 510

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	0.6538E+03	0.7414E+03	0.6781E+03	0.5430E+00	0.1504E+03	0.1226E+02	0.1976E+01	0.9266E+01
2	TEMP	[DEG.C]	0.1007E+02	0.1143E+02	0.1092E+02	0.1400E-01	0.1000E+00	0.3162E+00	-0.8522E+00	0.3128E+01
3	UC	[CM/S]	-0.1101E+02	0.1325E+02	-0.1187E+00	0.1792E+00	0.1638E+02	0.4047E+01	0.4996E+00	0.3266E+01
4	VC	[CM/S]	-0.1223E+02	0.1332E+02	-0.2067E+01	0.2292E+00	0.2680E+02	0.5177E+01	0.3182E+00	0.2687E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.2070E+01	0.2159E+02	0.4647E+01	0.2058E+00	183.29

FILE: NEADS1 SITE1 673 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 486. NUMBER OF DAYS: 486

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	SAL	[PPM]	0.3551E+02	0.3572E+02	0.3564E+02	0.1683E-02	0.1376E-02	0.3710E-01	-0.9011E+00	0.4024E+01
2	SIGT	[ ]	0.2717E+02	0.2746E+02	0.2731E+02	0.2332E-02	0.2642E-02	0.5141E-01	0.4878E+00	0.3802E+01

FILE: NEADS SITE 1 935 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 193. NUMBER OF DAYS: 193

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.8672E+01	0.9865E+01	0.9138E+01	0.2137E-01	0.8814E-01	0.2969E+00	0.6690E+00	0.2583E+01
2	SAL	[PPT]	0.3557E+02	0.3584E+02	0.3566E+02	0.5138E-02	0.5095E-02	0.7138E-01	0.7931E+00	0.2846E+01
3	UC	[CM/S]	-0.4432E+01	0.3248E+01	-0.1036E+01	0.1279E+00	0.3156E+01	0.1776E+01	-0.1113E+00	0.1836E+01
4	VC	[CM/S]	-0.7771E+01	0.4798E+01	-0.3245E+01	0.2170E+00	0.9089E+01	0.3015E+01	0.9766E+00	0.3391E+01
5	SIGT	[ ]	0.2759E+02	0.2769E+02	0.2763E+02	0.1585E-02	0.4848E-03	0.2202E-01	0.9964E+00	0.3285E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.3406E+01	0.6122E+01	0.2474E+01	0.1781E+00	197.71

FILE: NEADS1 SITE1 1585 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 170. NUMBER OF DAYS: 170

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.4722E+01	0.6019E+01	0.5441E+01	0.2306E-01	0.9037E-01	0.3006E+00	-0.6062E+00	0.2751E+01
2	UC	[CM/S]	-0.2497E+01	0.3092E+01	0.8101E-01	0.8318E-01	0.1176E+01	0.1085E+01	0.2428E+00	0.2811E+01
3	VC	[CM/S]	-0.6933E+01	0.3579E+01	-0.8529E+00	0.1510E+00	0.3876E+01	0.1969E+01	-0.4022E+00	0.3445E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.8567E+00	0.2526E+01	0.1589E+01	0.1219E+00	174.57

FILE: NEADS1 SITE1 3089 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 510. NUMBER OF DAYS: 510

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2789E+01	0.2871E+01	0.2829E+01	0.7644E-03	0.2980E-03	0.1726E-01	-0.3236E+00	0.2519E+01
2	UC	[CM/S]	-0.5612E+01	0.3145E+01	-0.5043E+00	0.6882E-01	0.2416E+01	0.1554E+01	-0.1357E+00	0.2731E+01
3	VC	[CM/S]	-0.4933E+01	0.5342E+01	-0.7668E+00	0.9373E-01	0.4481E+01	0.2117E+01	0.3025E+00	0.2917E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.9178E+00	0.3448E+01	0.1857E+01	0.8223E-01	213.33

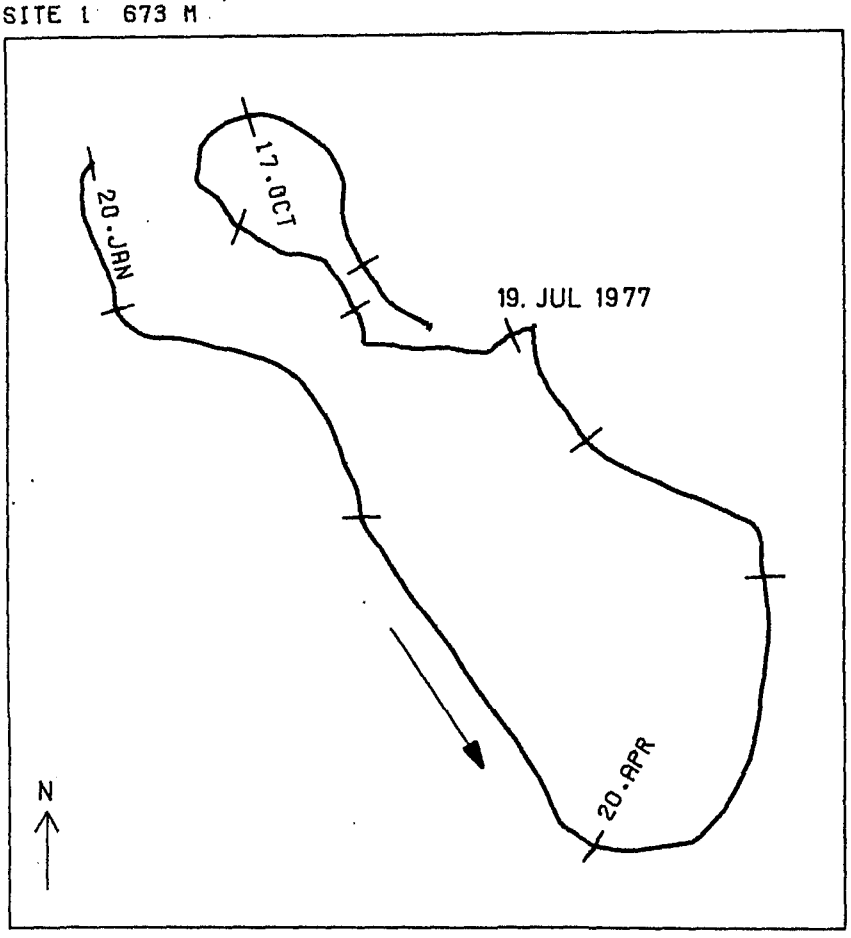
FILE: NEADS1 SITE1 4770 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 345. NUMBER OF DAYS: 345

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2446E+01	0.2475E+01	0.2462E+01	0.2881E-03	0.2864E-04	0.5352E-02	-0.6496E+00	0.3989E+01
2	UC	[CM/S]	-0.4804E+01	0.4650E+01	0.2938E+00	0.8692E-01	0.2607E+01	0.1615E+01	-0.1090E+00	0.3276E+01
3	VC	[CM/S]	-0.6985E+01	0.5072E+01	-0.1101E+01	0.1183E+00	0.4827E+01	0.2197E+01	0.2669E-01	0.[illegible]

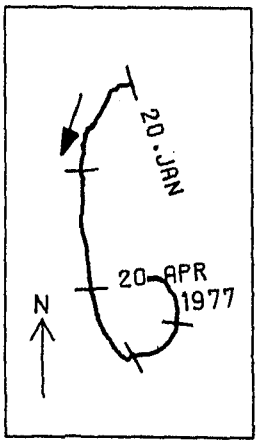
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1140E+01	0.3717E+01	0.1928E+01	0.1038E+00	165.06

SITE 1 673 M



150 KM 5 CM/S

SITE 1 1585 M



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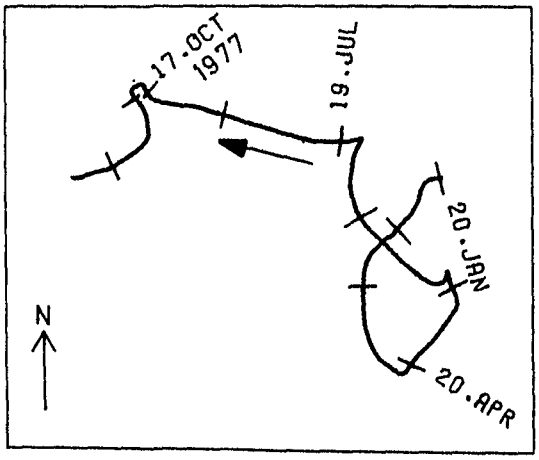

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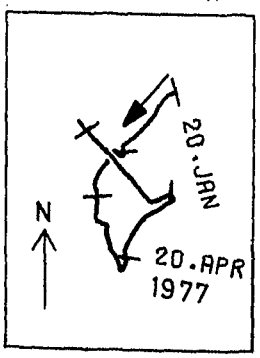

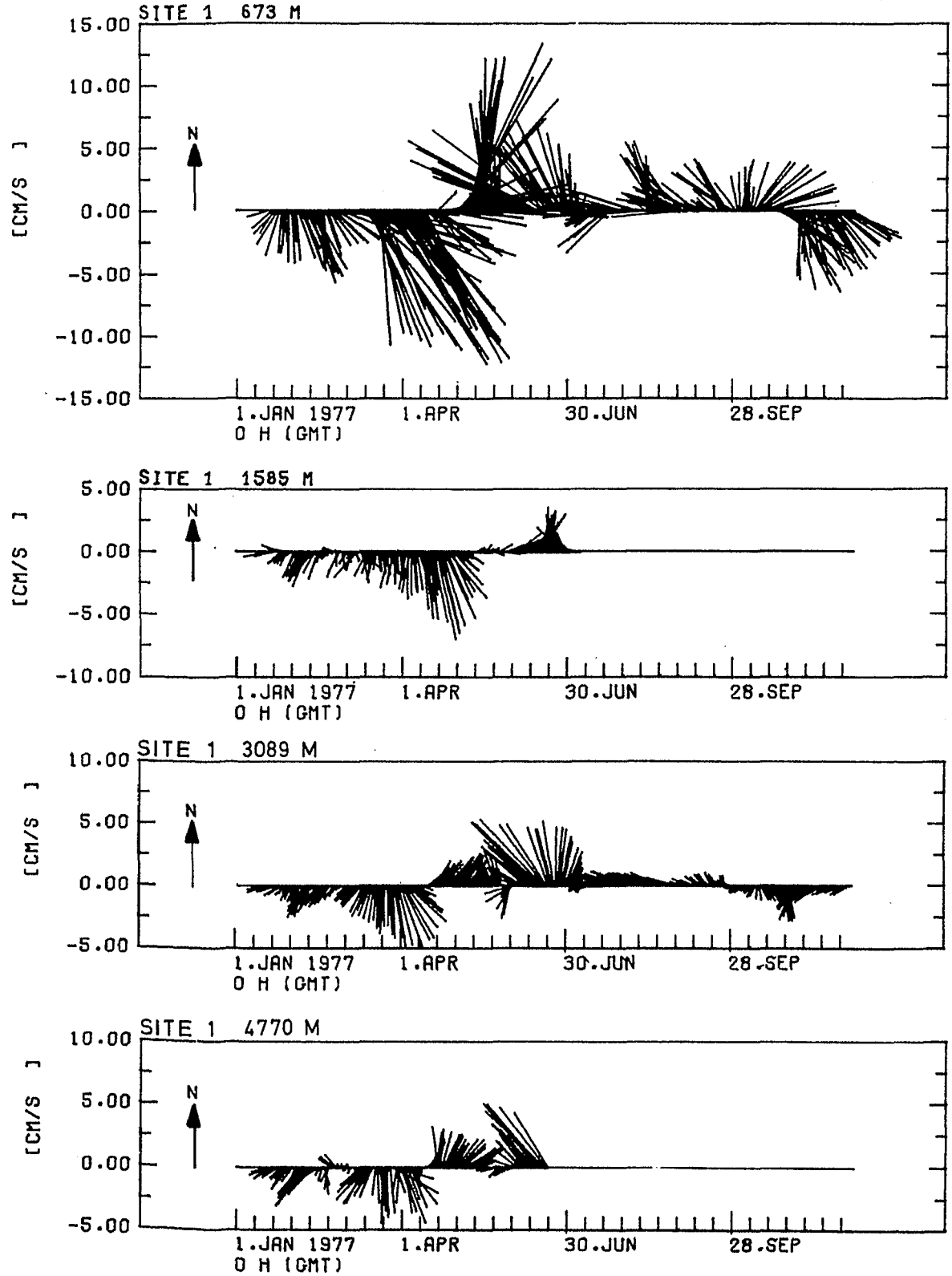
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5.00
0.00
-5.00
-10.00
-15.00
[CM/S]
N
1.JAN 1977
0 H (GMT)
1.APR
30.JUN
28.SEP
SITE 1 1585 M
5.00
0.00
-5.00
-10.00
[CM/S]
N
1.JAN 1977
0 H (GMT)
1.APR
30.JUN
28.SEP
SITE 1 3089 M
10.00
5.00
0.00
-5.00
[CM/S]
N
1.JAN 1977
0 H (GMT)
1.APR
30.JUN
28.SEP
SITE 1 4770 M
10.00
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0 H (GMT)
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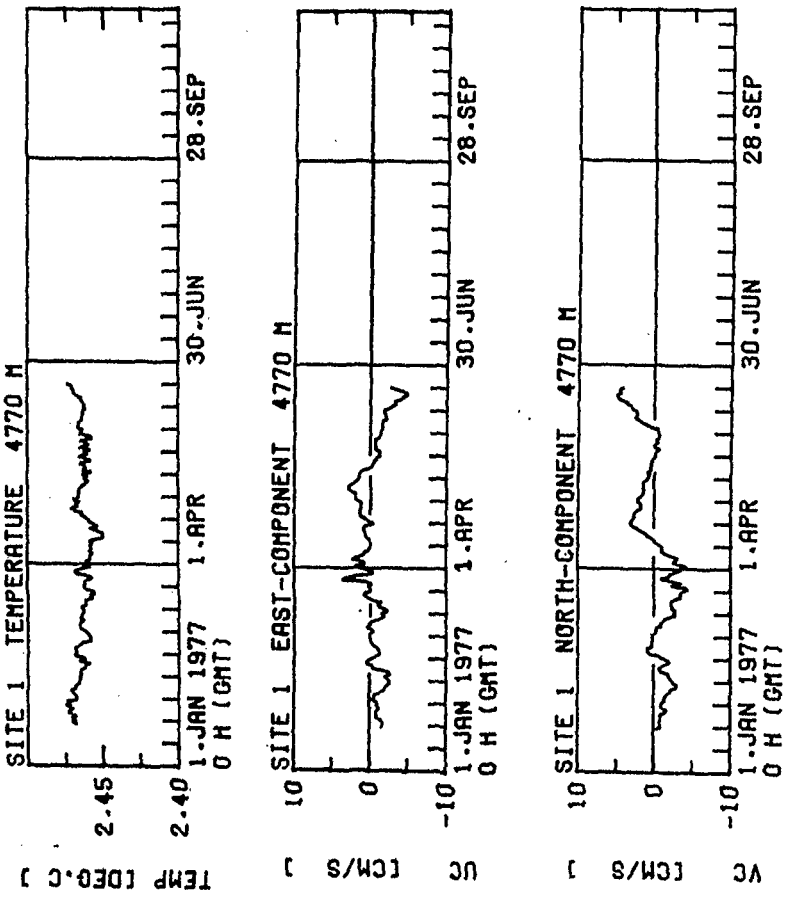
30.JUN
28.SEP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2.40
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30.JUN
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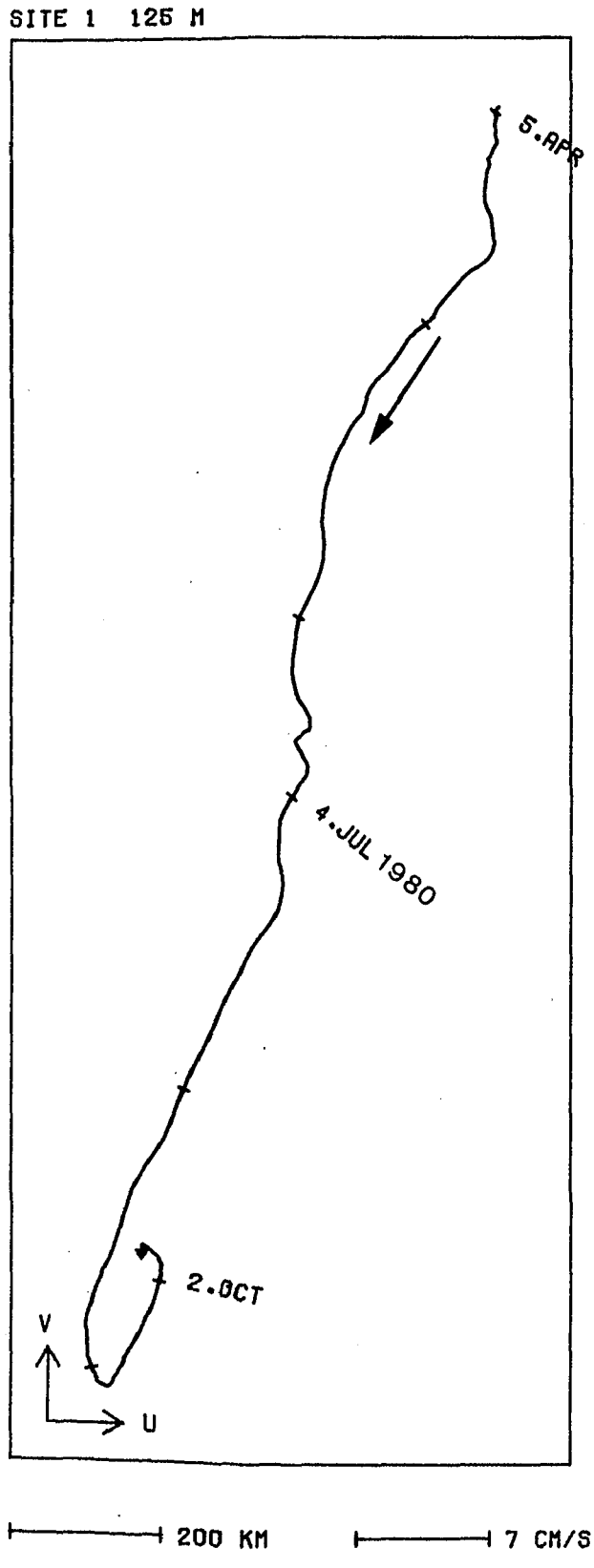
UC [CM/S]
10
0
-10
SITE 1 NORTH-COMPONENT 4770 M
VC [CM/S]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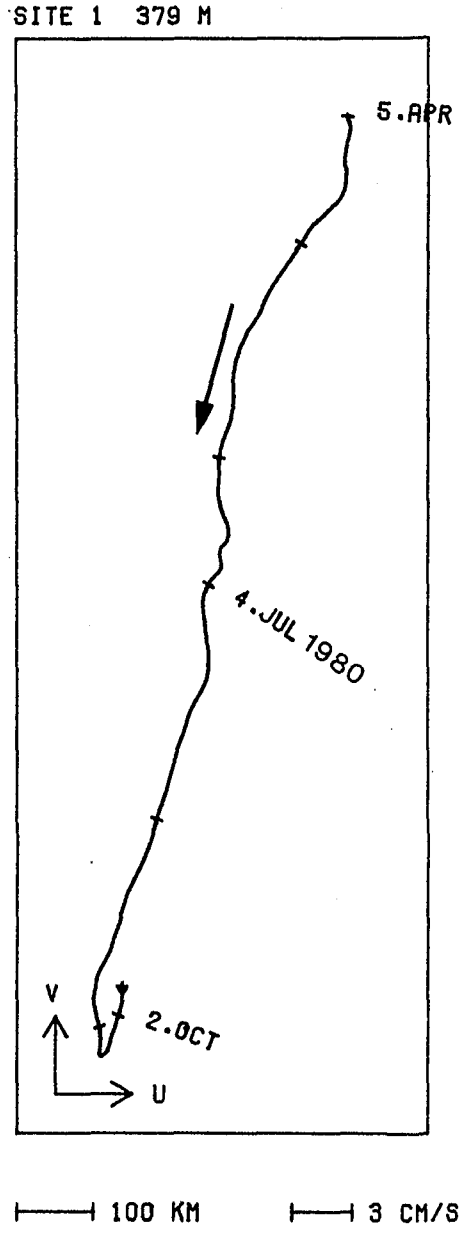
4.JUL 1980
2.OCT
V
U
200 KM
7 CM/S


SITE 1 379 M
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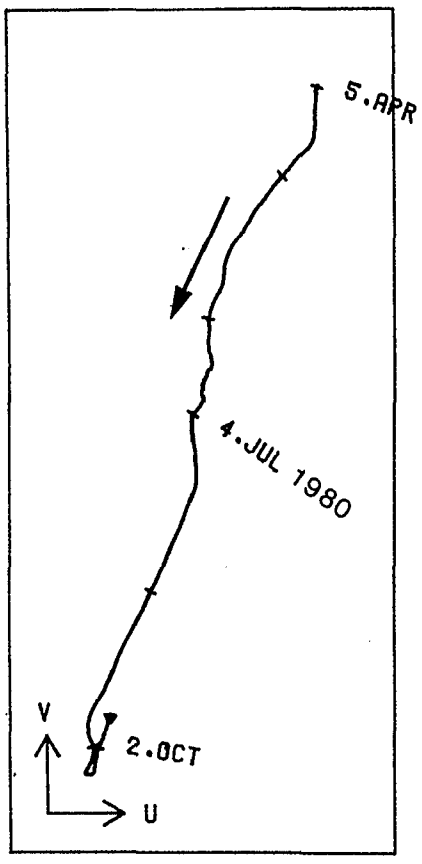
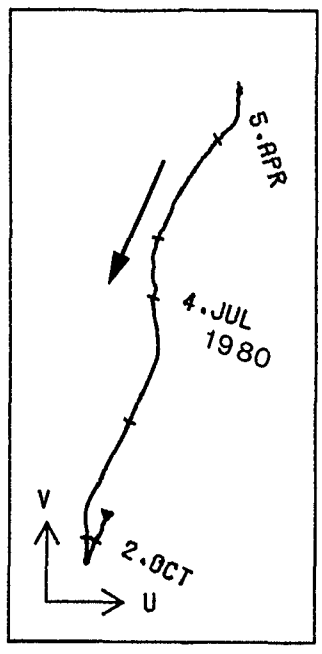
4.JUL 1980
2.OCT
V
U
100 KM
3 CM/S

SITE 1 673 m



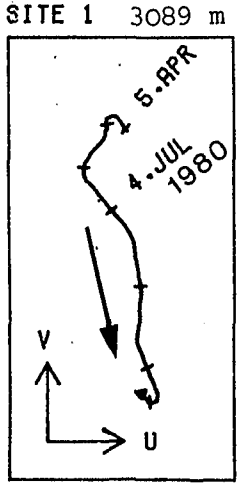
100 KM 3 CM/S

SITE 1 935 M



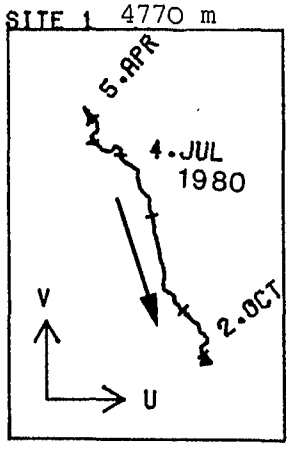
100 KM 3 CM/S

SITE 1 3089 m

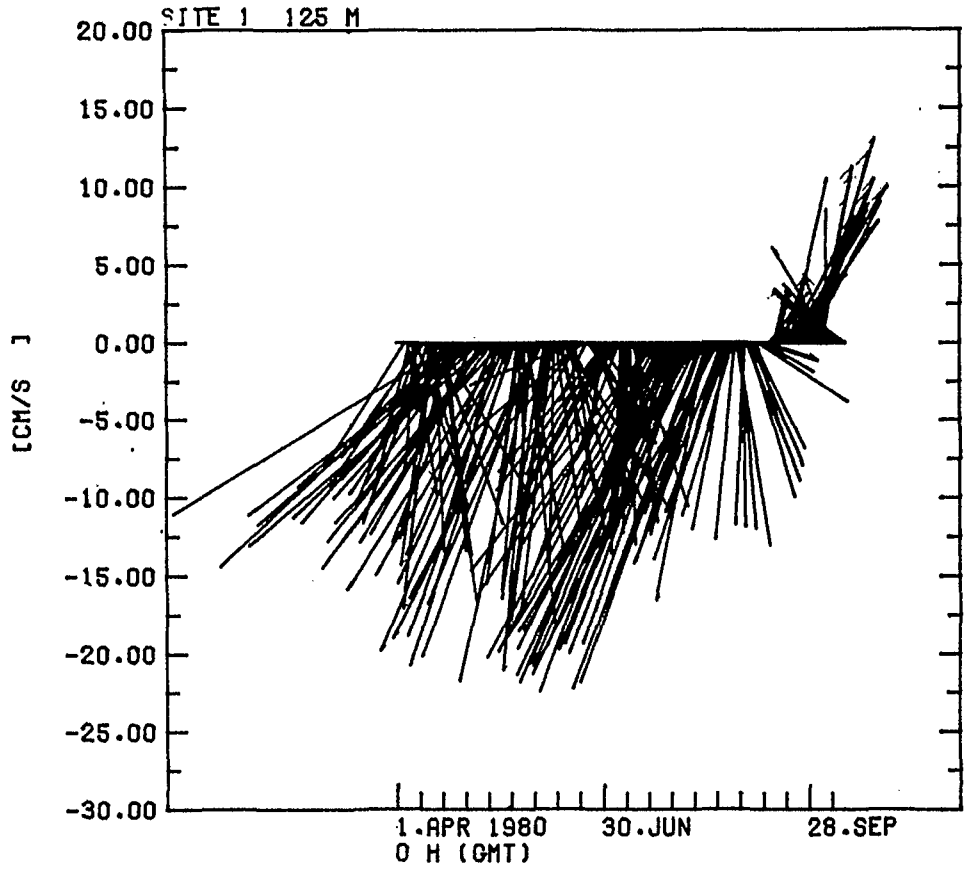


100 KM 3 CM/S

SITE 1 4770 m



100 KM 3 CM/S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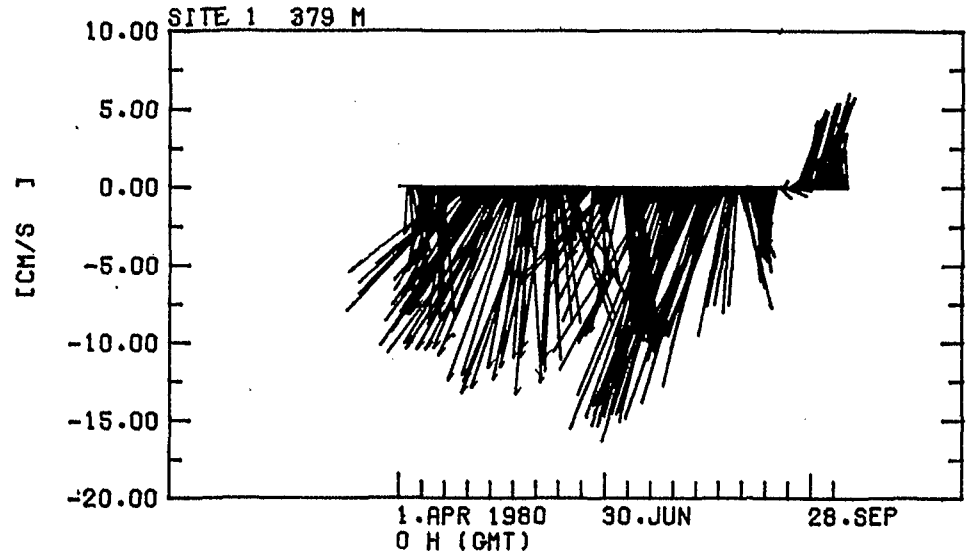
30.JUN
28.SEP
0 H (GMT)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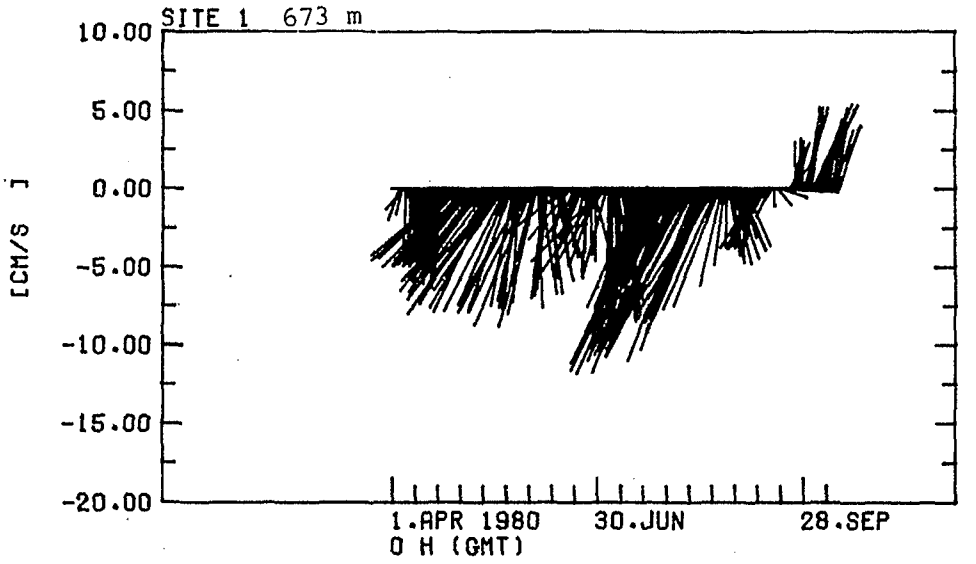
[CM/S]
1.APR 1980
30.JUN
28.SEP
0 H (GMT)


SITE 1 673 m
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0.00
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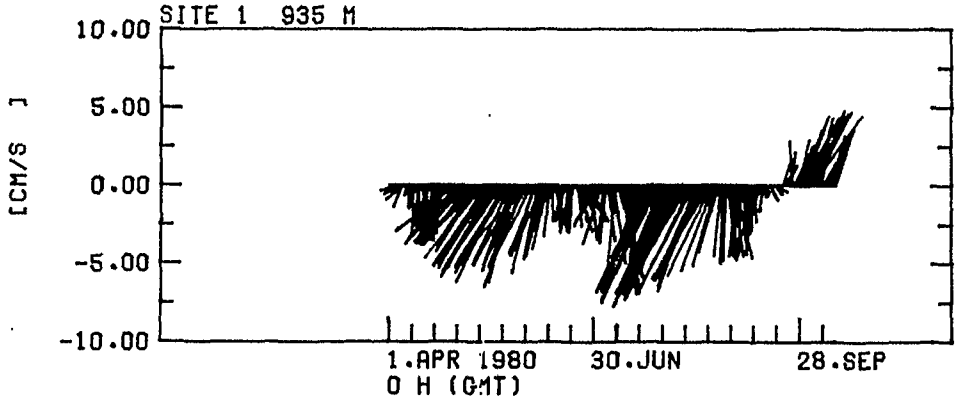
[CM/S]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP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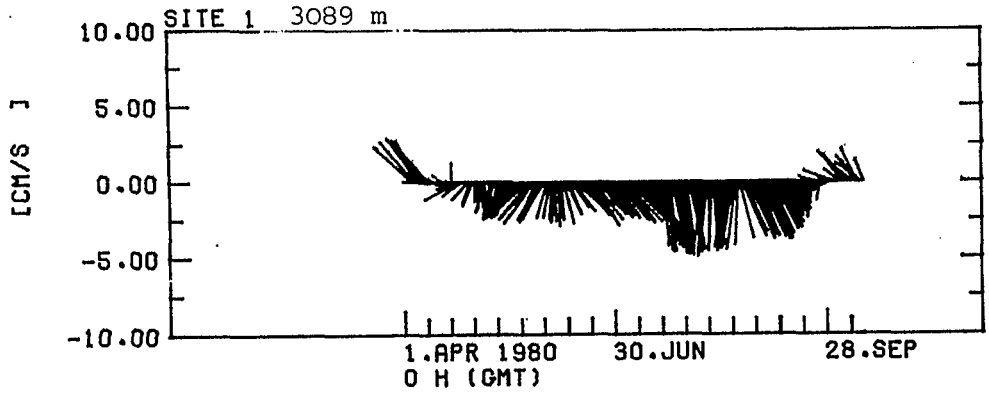
0 H (GMT)
30.JUN
28.SEP


SITE 1 3089 m
10.00
5.00
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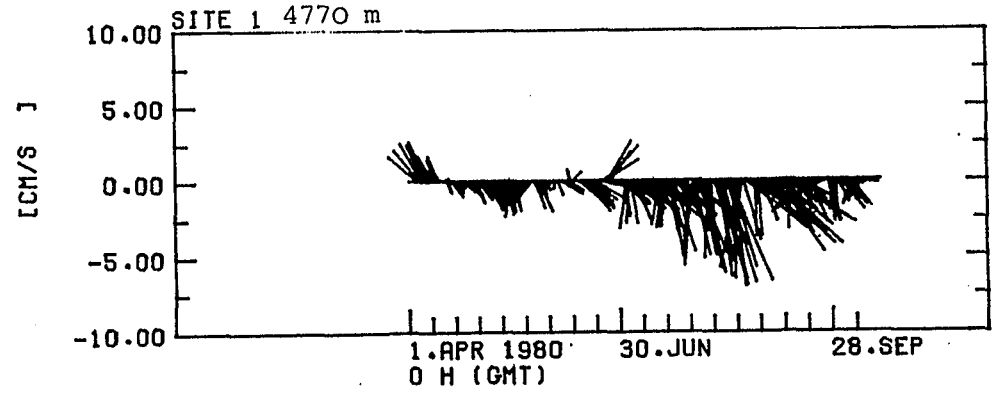
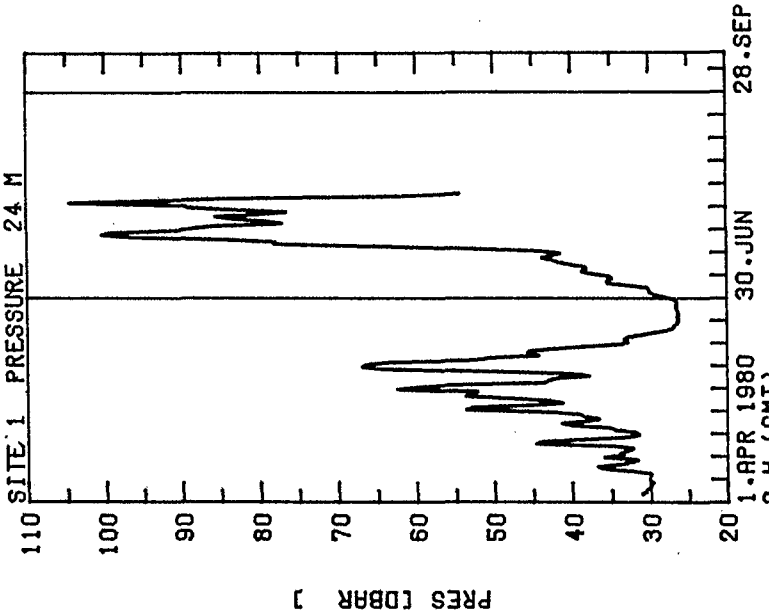
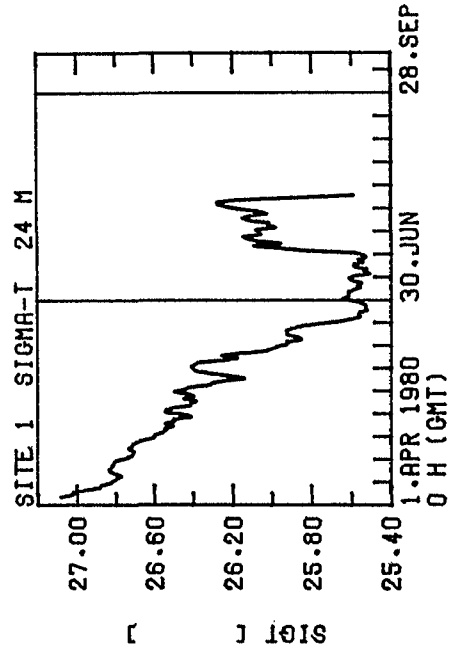
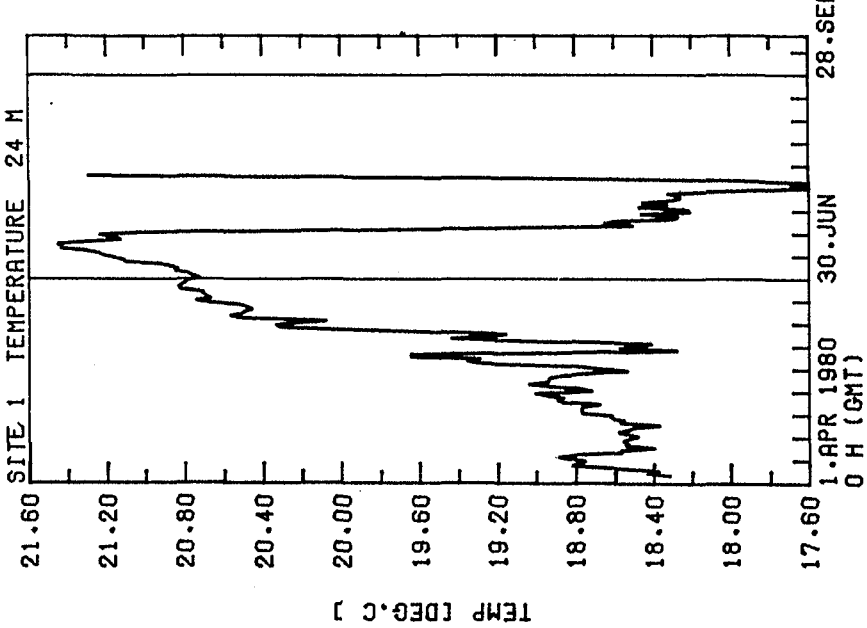
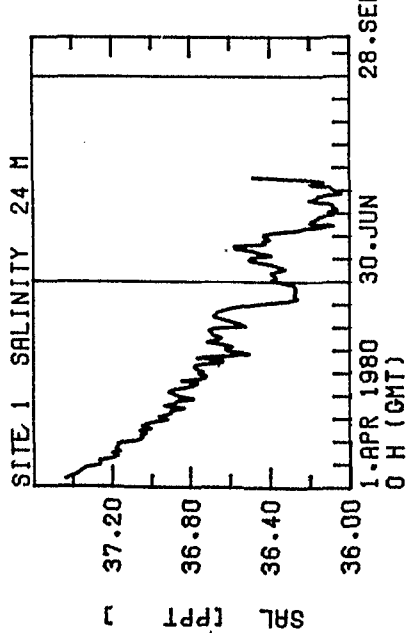
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

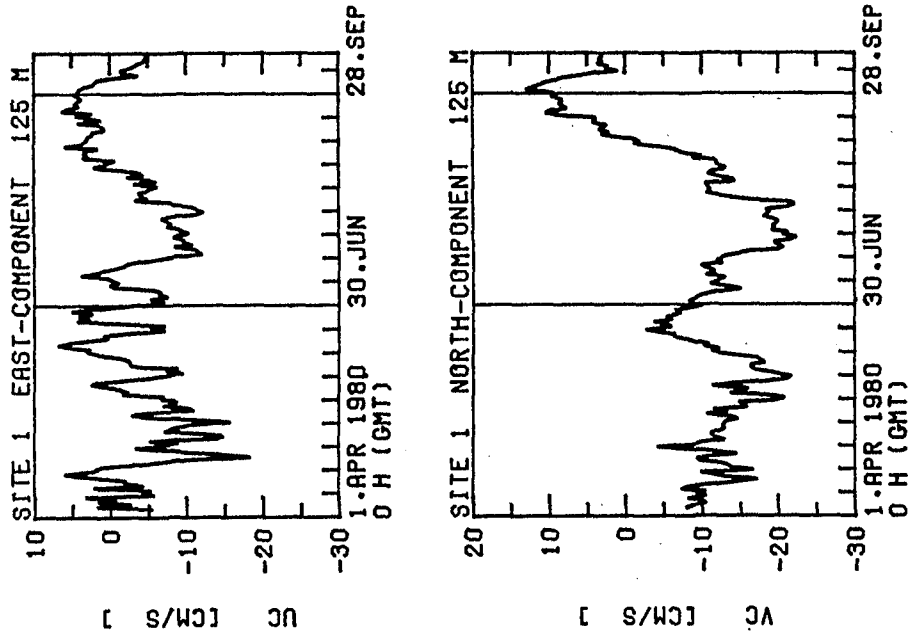

SITE 1 4770 m
10.00
5.00
0.00
-5.00
-10.00
[CM/S]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

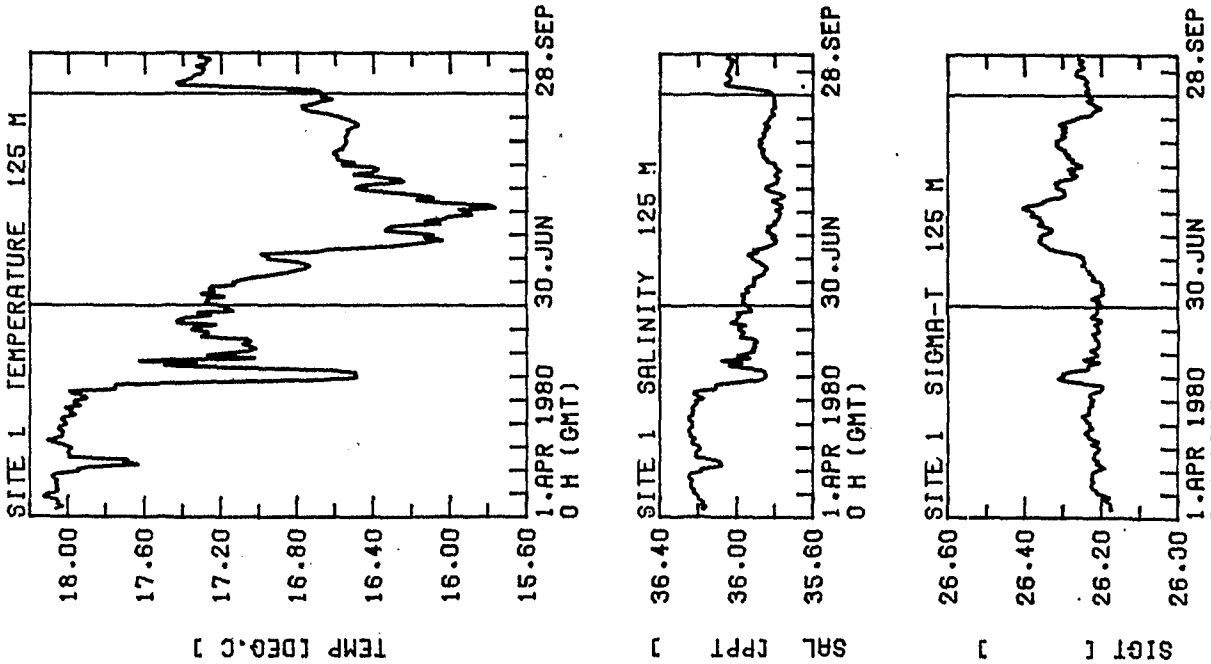

SITE 1 PRESSURE 24 M
110
100
90
80
70
60
50
40
30
20
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
PRES [DBAR]

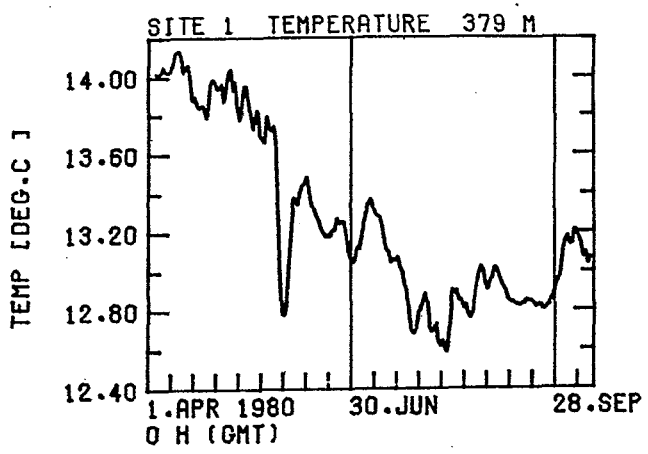

SITE 1 SIGMA-T 24 M
27.00
26.60
26.20
25.80
25.40
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SIGT [ ]

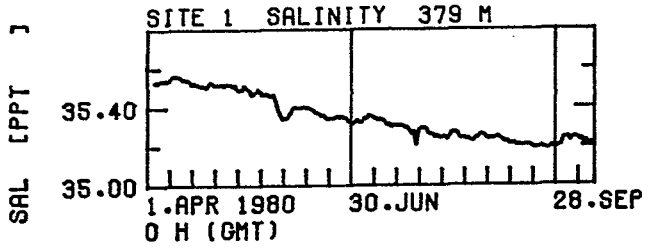

SITE 1 TEMPERATURE 24 M
21.60
21.20
20.80
20.40
20.00
19.60
19.20
18.80
18.40
18.00
17.60
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
TEMP [DEG.C]

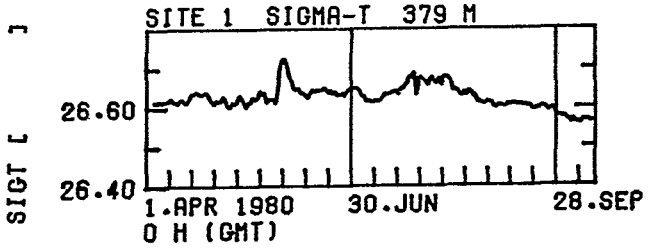

SITE 1 SALINITY 24 M
37.20
36.80
36.40
36.00
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SAL [PPT]

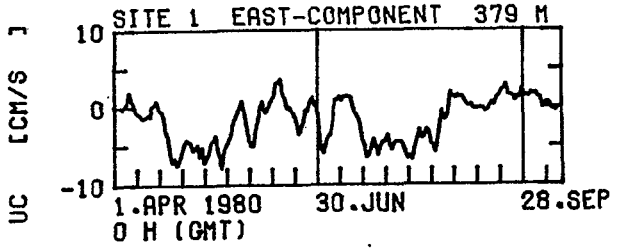

SITE 1 EAST-COMPONENT 125 M
10
0
-10
-20
-30
UC [CM/S]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SITE 1 NORTH-COMPONENT 125 M
20
10
0
-10
-20
-30
VC [CM/S]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

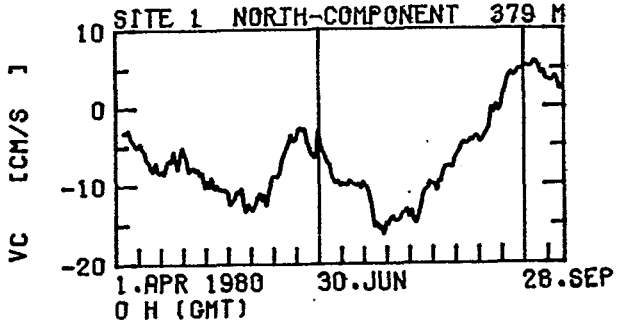

SITE 1 TEMPERATURE 125 M
18.00
17.60
17.20
16.80
16.40
16.00
15.60
TEMP [DEG.C]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SITE 1 SALINITY 125 M
36.40
36.00
35.60
SAL [PPT]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SITE 1 SIGMA-T 125 M
26.60
26.40
26.20
26.00
SIGT [ ]
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

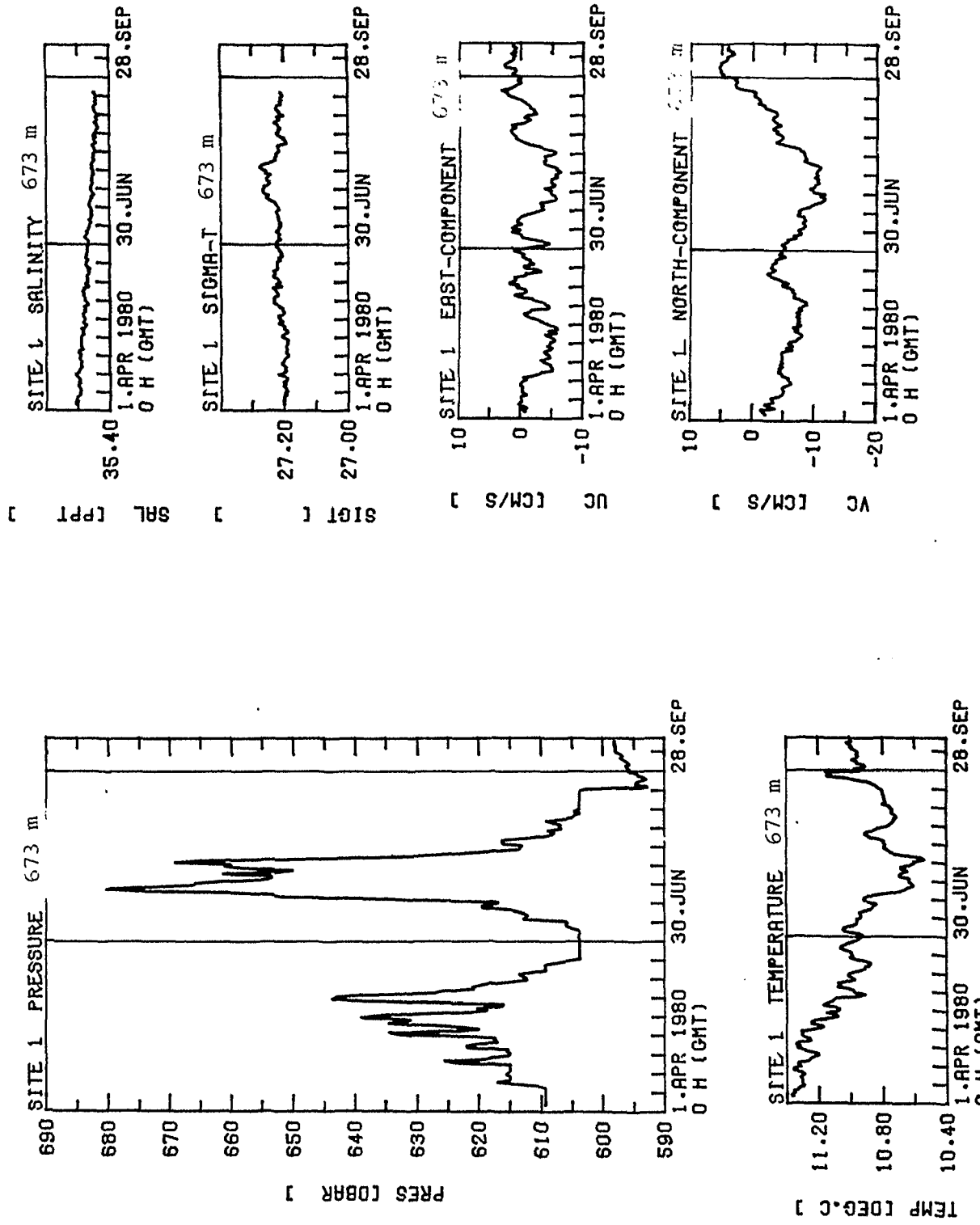

SITE 1 TEMPERATURE 379 M
TEMP [DEG.C]
14.00
13.60
13.20
12.80
12.40
1.APR 1980
30.JUN
28.SEP
0 H (GMT)

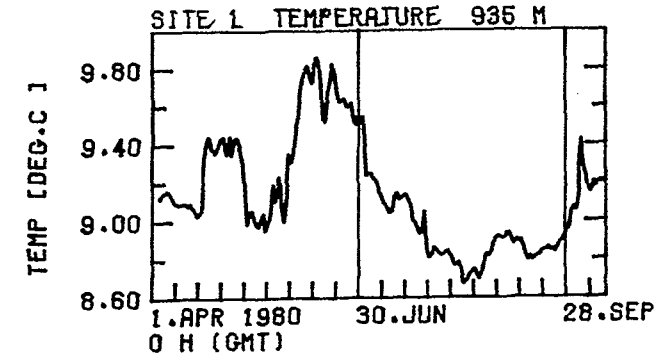

SITE 1 SALINITY 379 M
SAL [PPT]
35.40
35.00
1.APR 1980
30.JUN
28.SEP
0 H (GMT)

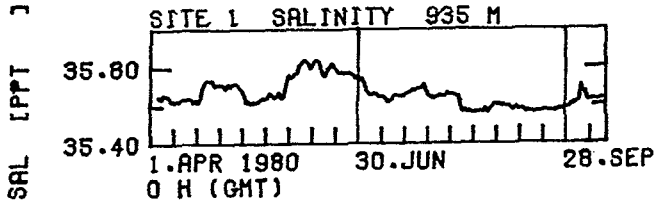

SITE 1 SIGMA-T 379 M
SIGT [ ]
26.60
26.40
1.APR 1980
30.JUN
28.SEP
0 H (GMT)

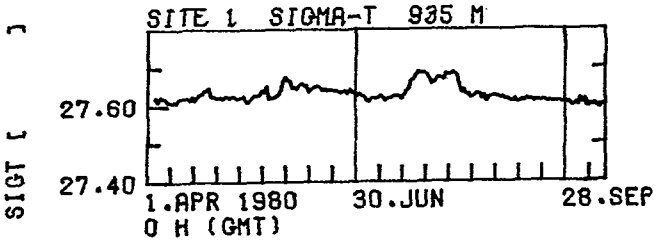

SITE 1 EAST-COMPONENT 379 M
UC [CM/S]
10
0
-10
1.APR 1980
30.JUN
28.SEP
0 H (GMT)

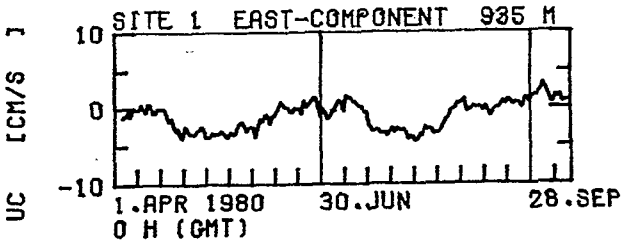

SITE 1 NORTH-COMPONENT 379 M
VC [CM/S]
10
0
-10
-20
1.APR 1980
30.JUN
28.SEP
0 H (GMT)

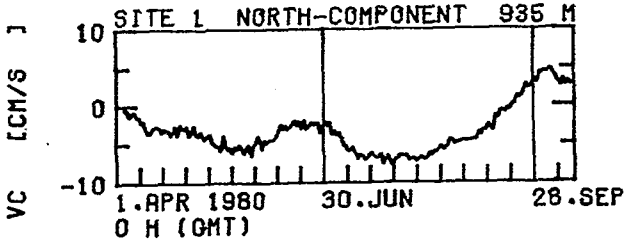

SITE 1 SALINITY 673 m
35.40
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SAL [PPT]
SITE 1 SIGMA-T 673 m
27.20
27.00
SIGT [ ]
SITE 1 EAST-COMPONENT
10
0
-10
UC [CM/S]
SITE 1 NORTH-COMPONENT
-20
VC [CM/S]
SITE 1 PRESSURE 673 m
690
680
670
660
650
640
630
620
610
600
590
PRES [DBAR]
SITE 1 TEMPERATURE 673 m
11.20
10.80
10.40
TEMP [DEG.C]

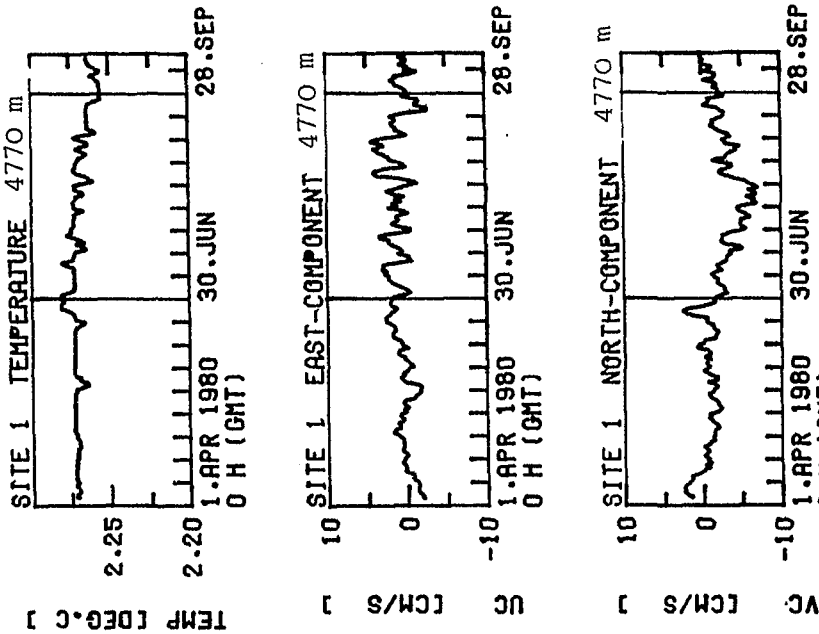

SITE 1 TEMPERATURE 935 M
TEMP [DEG.C]
9.80
9.40
9.00
8.60
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

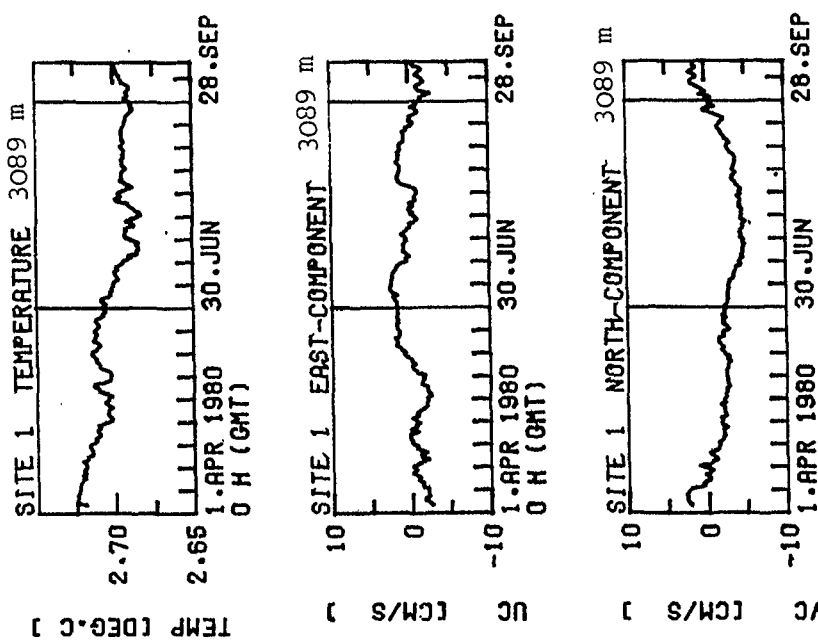

SITE 1 SALINITY 935 M
SAL [PPT]
35.80
35.40
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

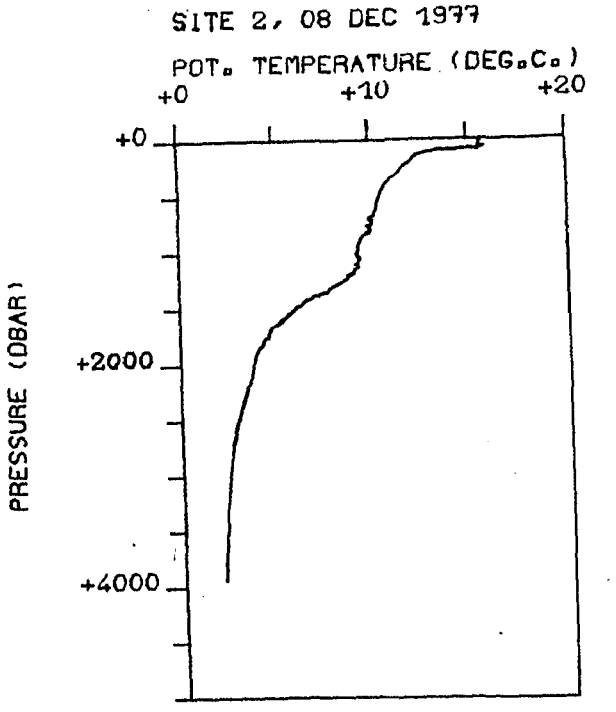

SITE 1 SIGMA-T 935 M
SIGT [ ]
27.60
27.40
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

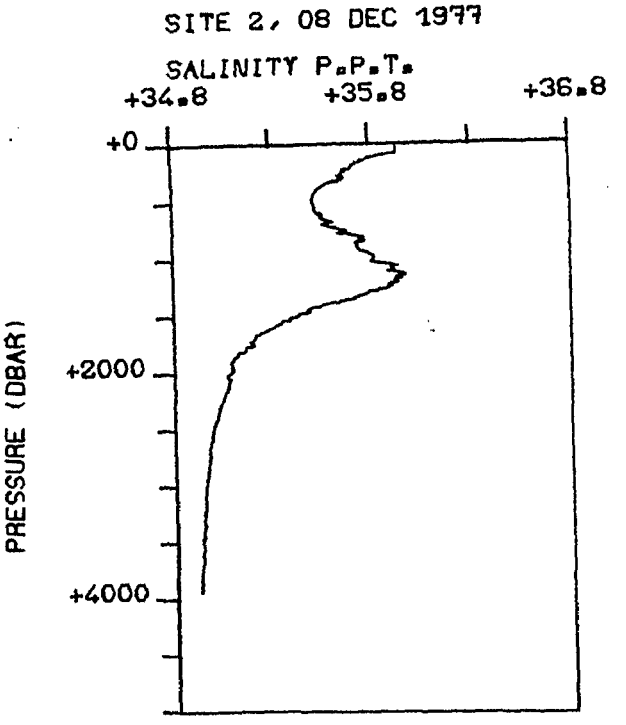

SITE 1 EAST-COMPONENT 935 M
UC [CM/S]
10
0
-10
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

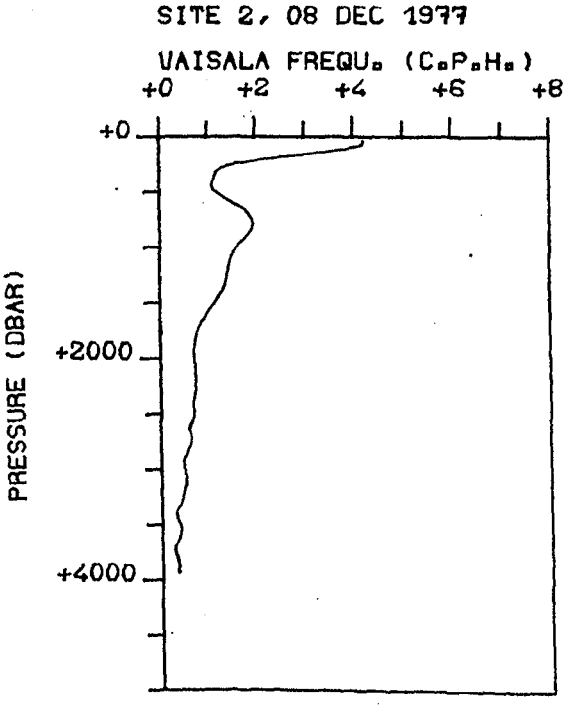

SITE 1 NORTH-COMPONENT 935 M
VC [CM/S]
10
0
-10
1.APR 1980
0 H (GMT)
30.JUN
28.SEP

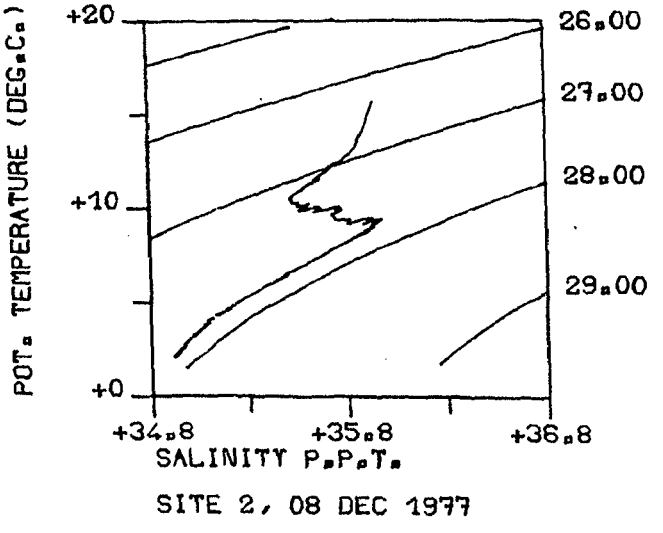

SITE 1 TEMPERATURE 4770 m
TEMP [DEG.C]
2.25
2.20
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SITE 1 EAST-COMPONENT 4770 m
UC [CM/S]
10
0
-10
SITE 1 NORTH-COMPONENT 4770 m
VC [CM/S]


SITE 1 TEMPERATURE 3089 m
TEMP [DEG.C]
2.70
2.65
1.APR 1980
0 H (GMT)
30.JUN
28.SEP
SITE 1 EAST-COMPONENT 3089 m
UC [CM/S]
10
0
-10
SITE 1 NORTH-COMPONENT 3089 m
VC [CM/S]


SITE 2, 08 DEC 1977
POT. TEMPERATURE (DEG.C.)
+0
+10
+20
+0
+2000
+4000
PRESSURE (DBAR)


SITE 2, 08 DEC 1977
SALINITY P.P.T.
+34.8
+35.8
+36.8
+0
+2000
+4000
PRESSURE (DBAR)


SITE 2, 08 DEC 1977
VAISALA FREQU. (C.P.H.)
+0
+2
+4
+6
+8
+0
+2000
+4000
PRESSURE (DBAR)


+20
+10
+0
POT. TEMPERATURE (DEG.C.)
26.00
27.00
28.00
29.00
+34.8
+35.8
+36.8
SALINITY P.P.T.
SITE 2, 08 DEC 1977

FILE: NEADS SITE2 788 m MOORING ID: 203101 START-CYCLE: 1. STOP-CYCLE: 3406. NUMBER OF HOURS: 3406

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.8630E+00	0.7229E+00	-0.1443E-03	0.2681E-02	0.2449E-01	0.1565E+00	-0.1684E+00	0.5597E+01
2	SAL	[PPT]	-0.2388E+00	0.1973E+00	-0.4113E-05	0.6662E-03	0.1512E-02	0.3888E-01	-0.1888E+00	0.4783E+01
3	UC	[CM/S]	-0.1233E+02	0.1350E+02	-0.3722E-02	0.7073E-01	0.1704E+02	0.4128E+01	0.1493E+00	0.2818E+01
4	VC	[CM/S]	-0.1235E+02	0.1431E+02	0.2282E-02	0.6895E-01	0.1619E+02	0.4024E+01	0.2040E+00	0.2887E+01
5	SIGT	[ ]	-0.2240E+00	0.1305E+00	0.2303E-04	0.4316E-03	0.6344E-03	0.2519E-01	-0.1646E+00	0.7355E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.4366E-02	0.1662E+02	0.4076E+01	0.6985E-01	301.51

FILE: NEADS SITE2 1668 m MOORING ID: 203102 START-CYCLE: 1. STOP-CYCLE: 3406. NUMBER OF HOURS: 3406

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.6930E+00	0.7428E+00	-0.2235E-04	0.2024E-02	0.1395E-01	0.1181E+00	0.9349E-01	0.6148E+01
2	SAL	[PPT]	-0.1274E+00	0.1109E+00	0.2470E-04	0.3794E-03	0.4903E-03	0.2214E-01	0.5124E-02	0.5488E+01
3	UC	[CM/S]	-0.8087E+01	0.7975E+01	-0.1604E-02	0.3819E-01	0.4968E+01	0.2229E+01	-0.8903E-01	0.3139E+01
4	VC	[CM/S]	-0.8635E+01	0.7676E+01	-0.2727E-03	0.4166E-01	0.5912E+01	0.2432E+01	0.1630E+00	0.2809E+01
5	SIGT	[ ]	-0.5227E-01	0.5685E-01	0.2226E-04	0.2125E-03	0.1538E-03	0.1240E-01	0.2145E+00	0.3559E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.1627E-02	0.5440E+01	0.2332E+01	0.3996E-01	260.35

FILE: NEADS SITE2 3168 m MOORING ID: 203103 START-CYCLE: 1. STOP-CYCLE: 3406. NUMBER OF HOURS: 3406

SAMPLING INTERVAL (MINUTES) : 0.600000+02

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.3615E-01	0.3977E-01	0.4669E-05	0.1827E-03	0.1137E-03	0.1066E-01	0.7232E-01	0.3059E+01
2	UC	[CM/S]	-0.6422E+01	0.5994E+01	0.2109E-02	0.2726E-01	0.2532E+01	0.1591E+01	0.1218E+00	0.3992E+01
3	VC	[CM/S]	-0.5746E+01	0.7215E+01	-0.6382E-03	0.3135E-01	0.3347E+01	0.1830E+01	0.2979E+00	0.3647E+01

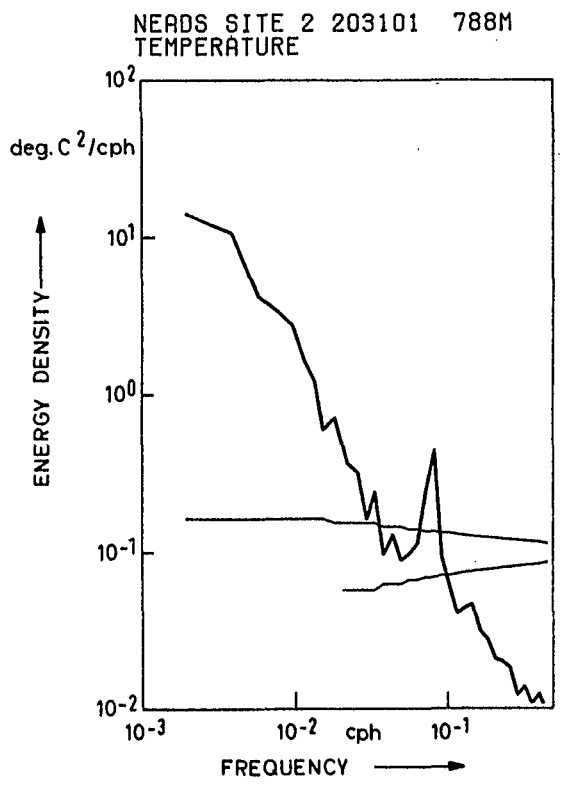
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.2204E-02	0.2940E+01	0.1715E+01	0.2938E-01	106.83

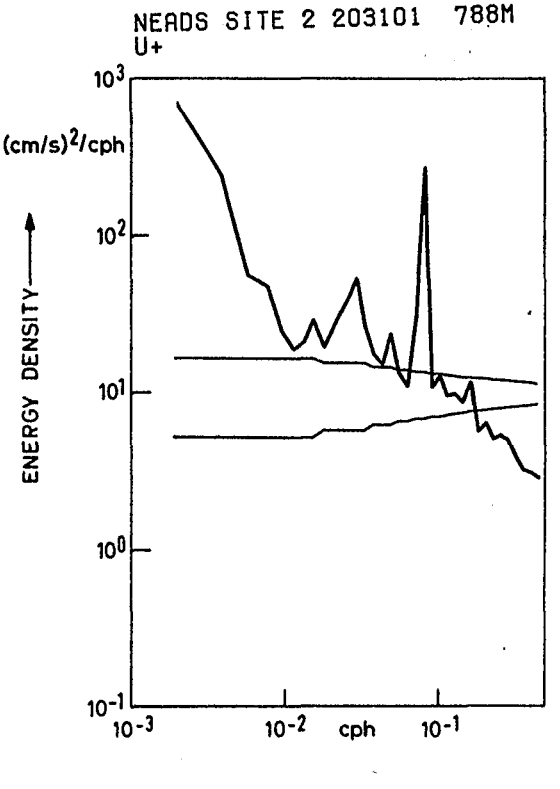
FILE: NEADS SITE2 5079 m MOORING ID: 203104 START-CYCLE: 1. STOP-CYCLE: 3406. NUMBER OF HOURS: 3406

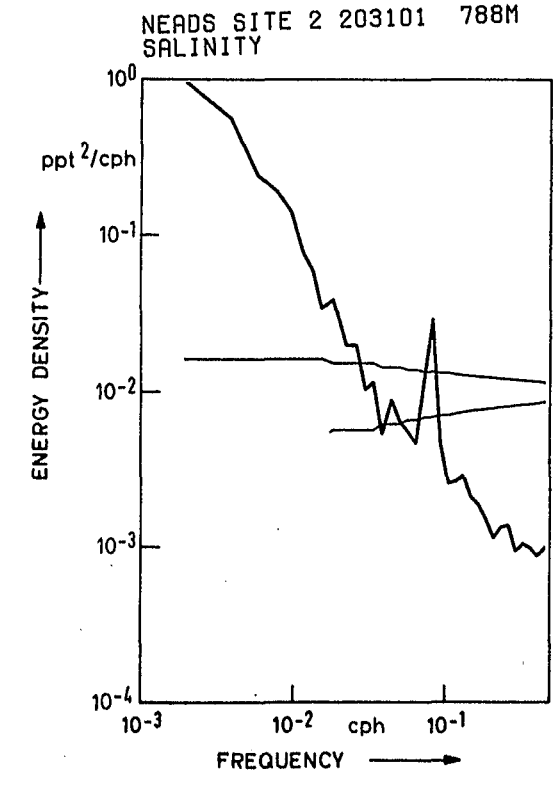
SAMPLING INTERVAL (MINUTES) : 0.600000+02

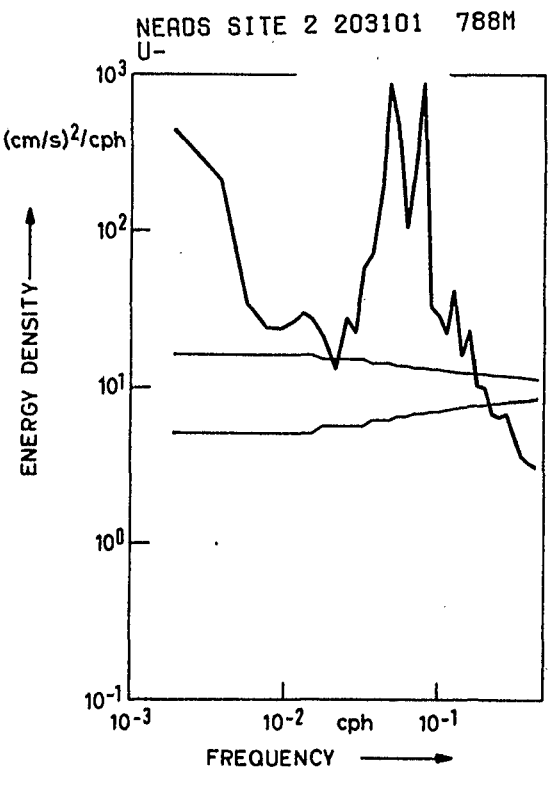
VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.7969E-02	0.7967E-02	0.1698E-05	0.2999E-04	0.3063E-05	0.1750E-02	0.1108E+00	0.1020E+02
2	UC	[CM/S]	-0.7690E+01	0.6633E+01	-0.1060E-02	0.2708E-01	0.2498E+01	0.1580E+01	0.1620E+00	0.4381E+01
3	VC	[CM/S]	-0.5544E+01	0.4659E+01	0.1116E-02	0.2254E-01	0.1731E+01	0.1316E+01	0.2136E+00	0.2964E+01

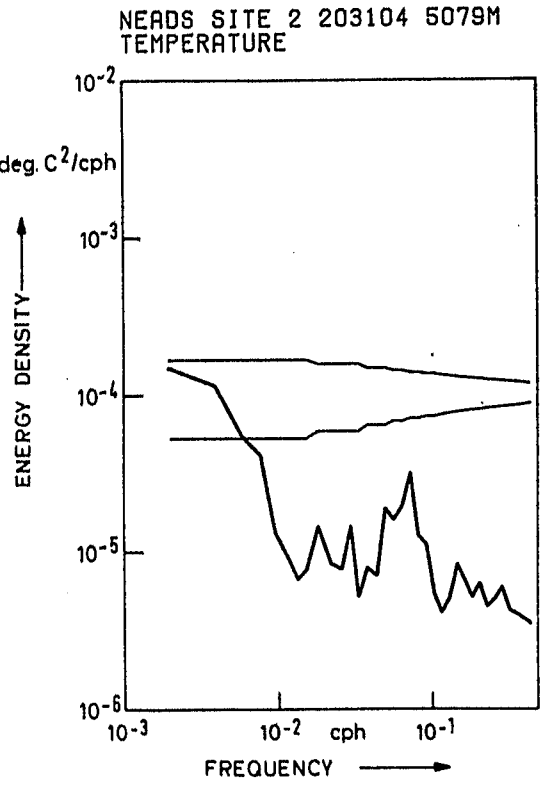
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1539E-02	0.2114E+01	0.1454E+01	0.2491E-01	316.47

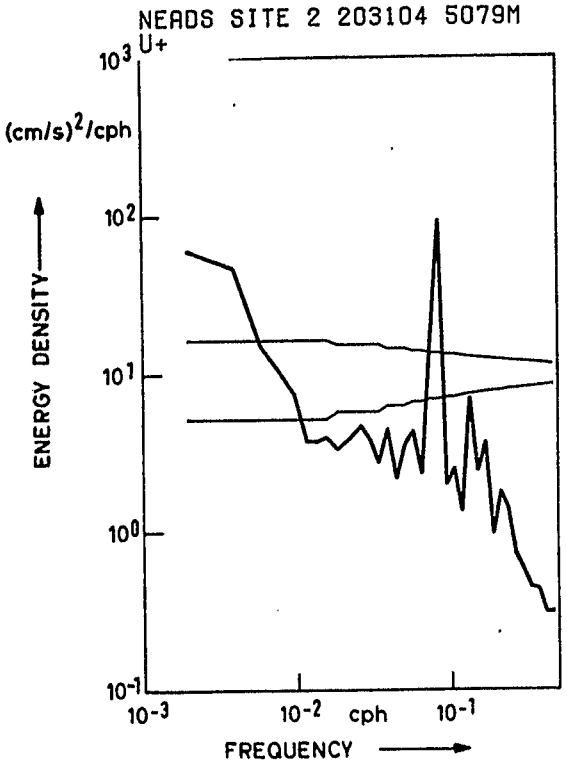

NEADS SITE 2 203101 788M
TEMPERATURE
deg. C 2/cph
ENERGY DENSITY
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-2
cph
10^-1
FREQUENCY

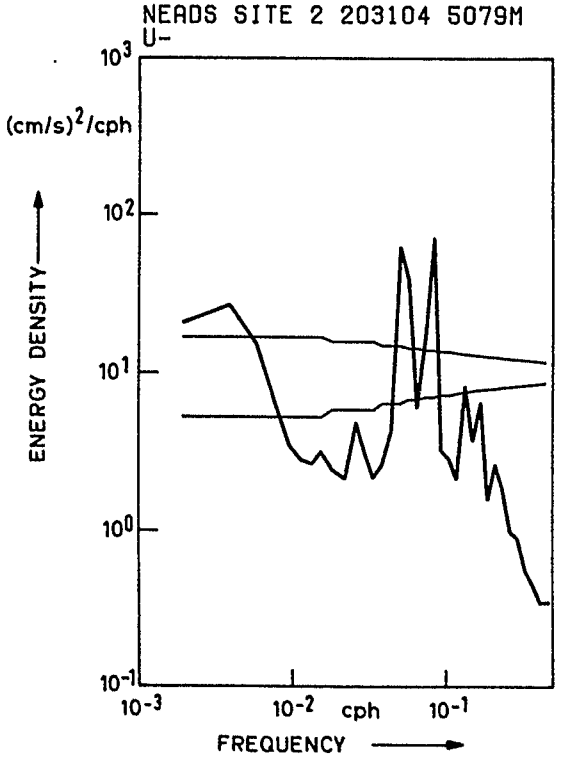

NEADS SITE 2 203101 788M
U+
(cm/s)2/cph
ENERGY DENSITY
10^3
10^2
10^1
10^0
10^-1
10^-3
10^-2
cph
10^-1


NEADS SITE 2 203101 788M
SALINITY
ppt 2/cph
ENERGY DENSITY
10^0
10^-1
10^-2
10^-3
10^-4
10^-3
10^-2
cph
10^-1
FREQUENCY


NEADS SITE 2 203101 788M
U-
(cm/s)2/cph
ENERGY DENSITY
10^3
10^2
10^1
10^0
10^-1
10^-3
10^-2
cph
10^-1
FREQUENCY


NEADS SITE 2 203104 5079M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 203104 5079M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 203104 5079M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

FILE: NEADS SITE2 788 m MOORING ID: 229101 START-CYCLE: 1. STOP-CYCLE: 9324. NUMBER OF HOURS: 9324

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.7815E+00	0.5289E+00	0.3607E-04	0.8622E-03	0.6931E-02	0.8325E-01	-0.2398E+00	0.8631E+01
2	SAL	[PPT]	-0.2232E+00	0.1739E+00	0.2447E-04	0.2990E-03	0.8337E-03	0.2887E-01	0.2616E-01	0.6192E+01
3	UC	[CM/S]	-0.1477E+02	0.1390E+02	0.9783E-03	0.3867E-01	0.1394E+02	0.3734E+01	-0.7741E-02	0.3004E+01
4	VC	[CM/S]	-0.1516E+02	0.1306E+02	0.4134E-04	0.3476E-01	0.1127E+02	0.3357E+01	-0.1352E+00	0.3256E+01
5	SIGT	[ ]	-0.1564E+00	0.1337E+00	0.1300E-04	0.1816E-03	0.3076E-03	0.1754E-01	-0.5511E-01	0.4919E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.9792E-03	0.1260E+02	0.3550E+01	0.3677E-01	87.58

FILE: NEADS SITE2 3168 m MOORING ID: 229103 START-CYCLE: 1. STOP-CYCLE: 6324. NUMBER OF HOURS: 6324

SAMPLING INTERVAL (MINUTES) : 0.60000D+02

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.4369E-01	0.4787E-01	0.8932E-05	0.1434E-03	0.1301E-03	0.1141E-01	0.2143E+00	0.3330E+01
2	UC	[CM/S]	-0.6801E+01	0.6065E+01	0.2786E-03	0.2542E-01	0.4086E+01	0.2021E+01	-0.1597E-01	0.2627E+01
3	VC	[CM/S]	-0.5899E+01	0.6071E+01	0.7301E-04	0.1823E-01	0.2101E+01	0.1450E+01	-0.1001E+00	0.3622E+01

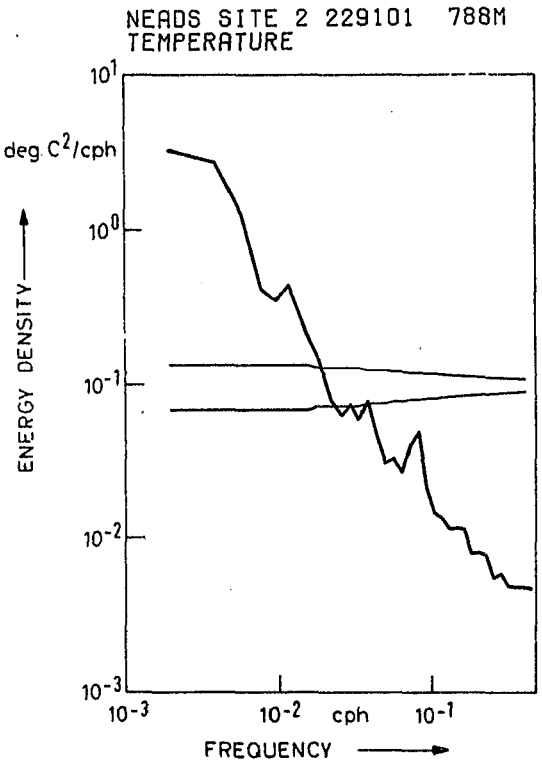
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.2880E-03	0.3094E+01	0.1759E+01	0.2212E-01	75.31

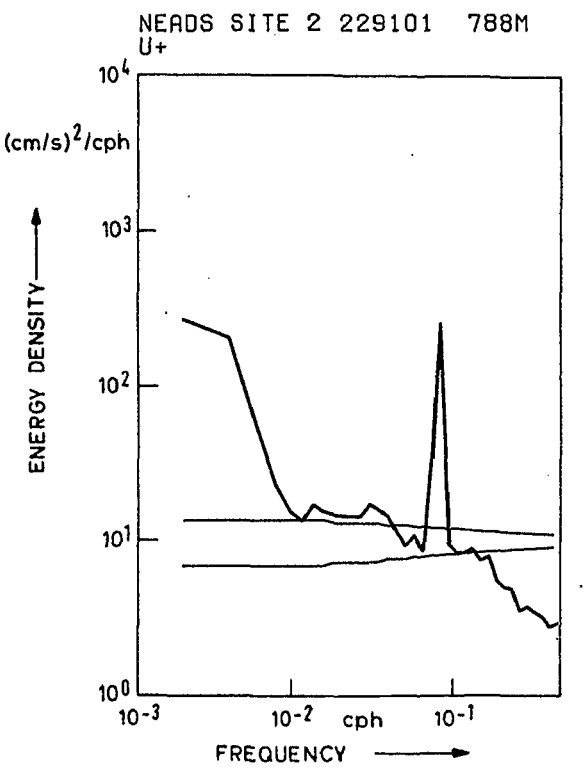
FILE: NEADS SITE2 4181 m MOORING ID: 229104 START-CYCLE: 1. STOP-CYCLE: 4644. NUMBER OF HOURS: 4644

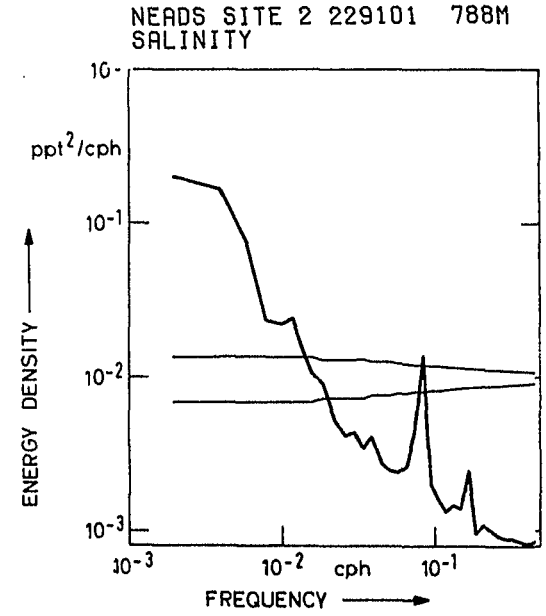
SAMPLING INTERVAL (MINUTES) : 0.60000D+02

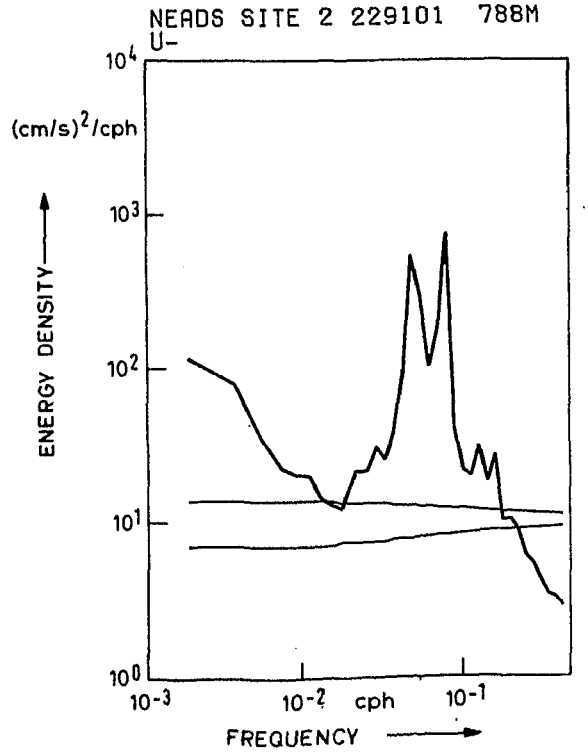
VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.2577E-01	0.2467E-01	0.2497E-05	0.7271E-04	0.2455E-04	0.4955E-02	0.1186E+00	0.5601E+01
2	UC	[CM/S]	-0.6089E+01	0.5914E+01	-0.4293E-03	0.2530E-01	0.2973E+01	0.1724E+01	0.5442E-01	0.3484E+01
3	VC	[CM/S]	-0.5294E+01	0.4230E+01	-0.6460E-03	0.1801E-01	0.1507E+01	0.1227E+01	0.1257E+00	0.3875E+01

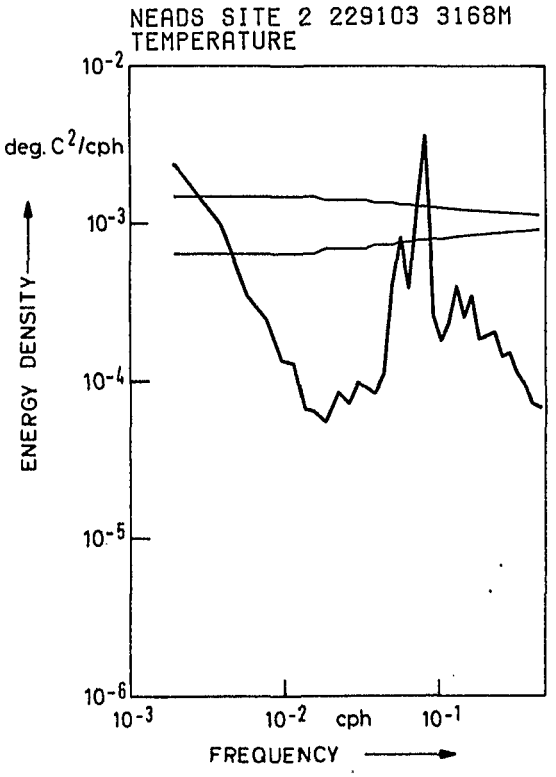
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.7756E-03	0.2240E+01	0.1497E+01	0.2196E-01	213.61

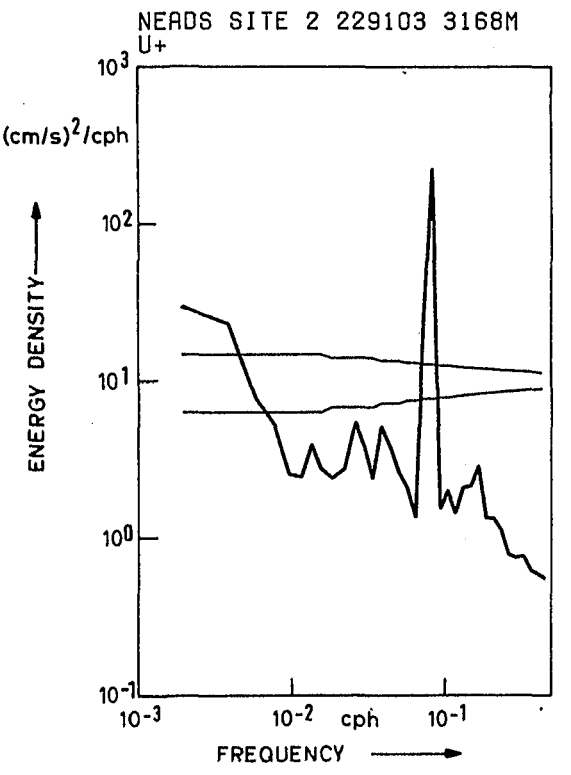

NEADS SITE 2 229101 788M
TEMPERATURE
deg.C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

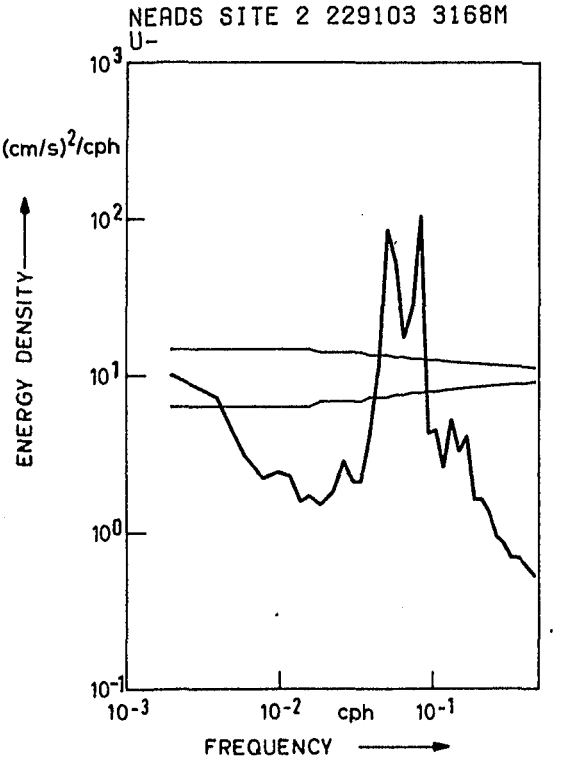

NEADS SITE 2 229101 788M
U+
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

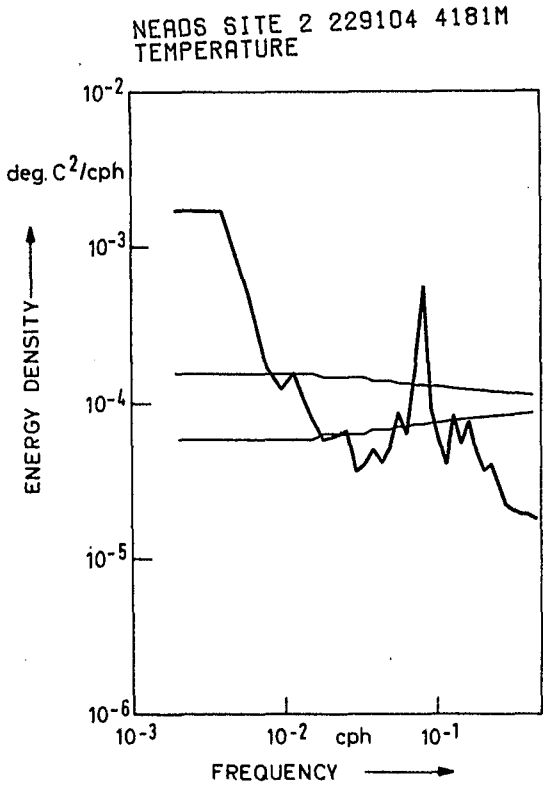

NEADS SITE 2 229101 788M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

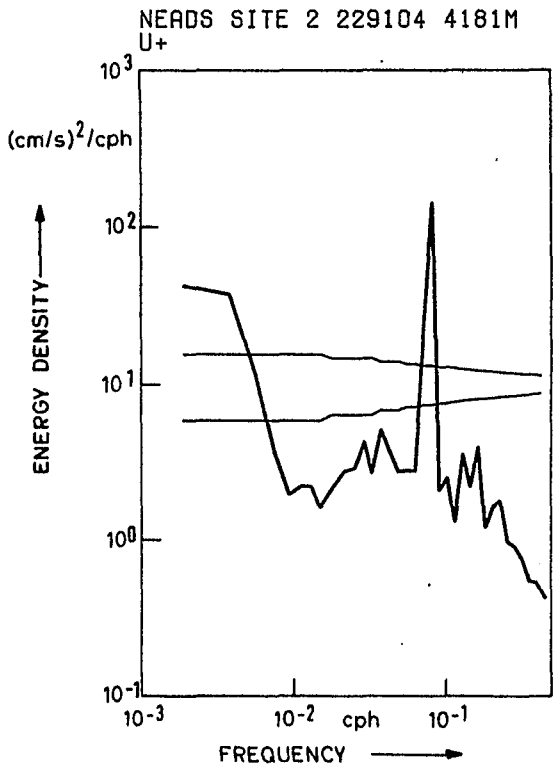

NEADS SITE 2 229101 788M
U-
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

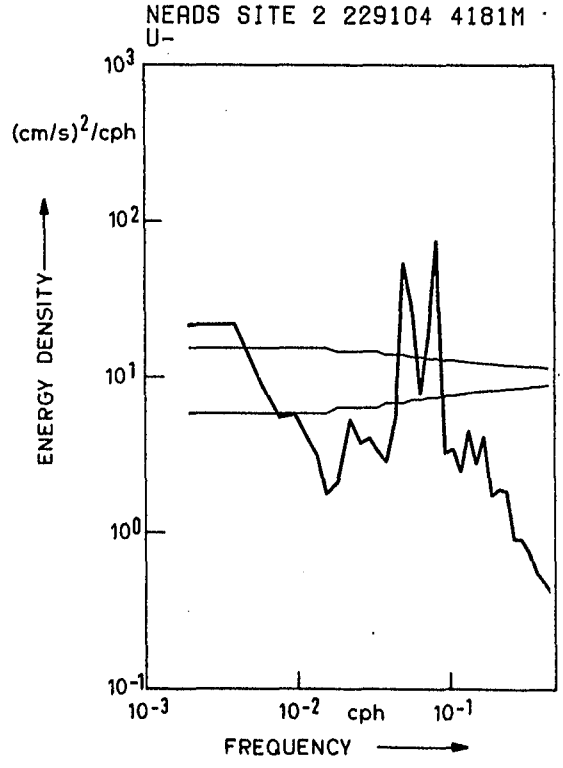

NEADS SITE 2 229103 3168M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻² cph
10⁻¹
FREQUENCY


NEADS SITE 2 229103 3168M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻² cph
10⁻¹
FREQUENCY


NEADS SITE 2 229103 3168M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻² cph
10⁻¹
FREQUENCY


NEADS SITE 2 229104 4181M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻² cph
10⁻¹
FREQUENCY


NEADS SITE 2 229104 4181M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻² cph
10⁻¹
FREQUENCY


NEADS SITE 2 229104 4181M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻² cph
10⁻¹
FREQUENCY

FILE: NEADS SITE2 1668 m MOORING ID: 242102 START-CYCLE: 1. STOP-CYCLE: 5516. NUMBER OF HOURS: 5516

SAMPLING INTERVAL (MINUTES) : 0.600000+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	-0.1465E+02	0.2253E+02	0.1956E-03	0.5022E-01	0.1391E+02	0.3730E+01	0.1090E+01	0.7978E+01
2	TEMP	[DEG.C]	-0.3732E+00	0.3593E+00	-0.3456E-04	0.1363E-02	0.1025E-01	0.1012E+00	-0.8699E-01	0.3238E+01
3	SAL	[PPT]	-0.9205E-01	0.9283E-01	0.1181E-04	0.2843E-03	0.4458E-03	0.2111E-01	0.2509E-03	0.3448E+01
4	UC	[CM/S]	-0.1338E+02	0.1252E+02	-0.1289E-02	0.4299E-01	0.1020E+02	0.3193E+01	-0.6276E-01	0.3466E+01
5	VC	[CM/S]	-0.1235E+02	0.1912E+02	-0.2780E-03	0.4081E-01	0.9188E+01	0.3031E+01	0.4627E-01	0.4489E+01
6	SIGT	[ ]	-0.6486E-01	0.5724E-01	0.1402E-04	0.1792E-03	0.1771E-03	0.1331E-01	-0.5504E-01	0.4325E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
4	5	0.1318E-02	0.9692E+01	0.3113E+01	0.4192E-01	257.83

FILE: NEADS SITE2 3168 m MOORING ID: 242103 START-CYCLE: 1. STOP-CYCLE: 5516. NUMBER OF HOURS: 5516

SAMPLING INTERVAL (MINUTES) : 0.600000+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.4522E-01	0.5723E-01	-0.4634E-05	0.1922E-03	0.2038E-03	0.1428E-01	0.1188E+00	0.3096E+01
2	UC	[CM/S]	-0.7294E+01	0.6050E+01	0.1029E-02	0.1578E-01	0.1373E+01	0.1172E+01	0.8536E+00	0.7630E+01
3	VC	[CM/S]	-0.5939E+01	0.5454E+01	-0.3132E-03	0.1434E-01	0.1135E+01	0.1065E+01	0.3264E+00	0.8079E+01

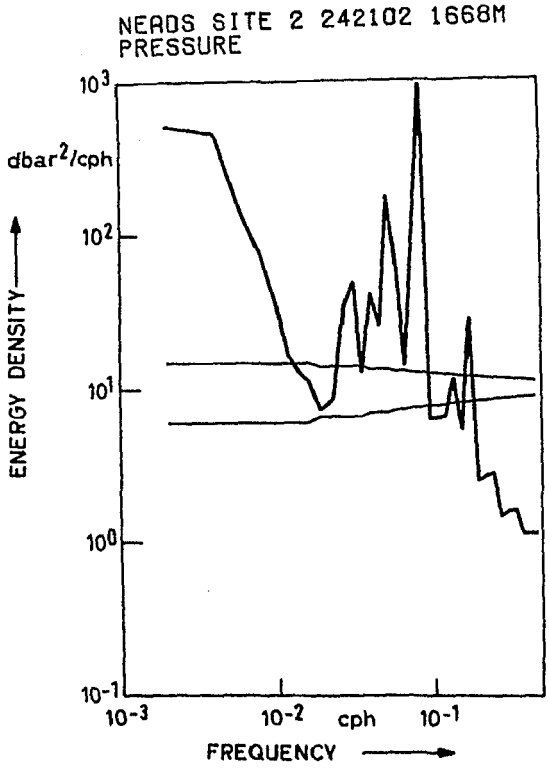
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1075E-02	0.1254E+01	0.1120E+01	0.1508E-01	106.93

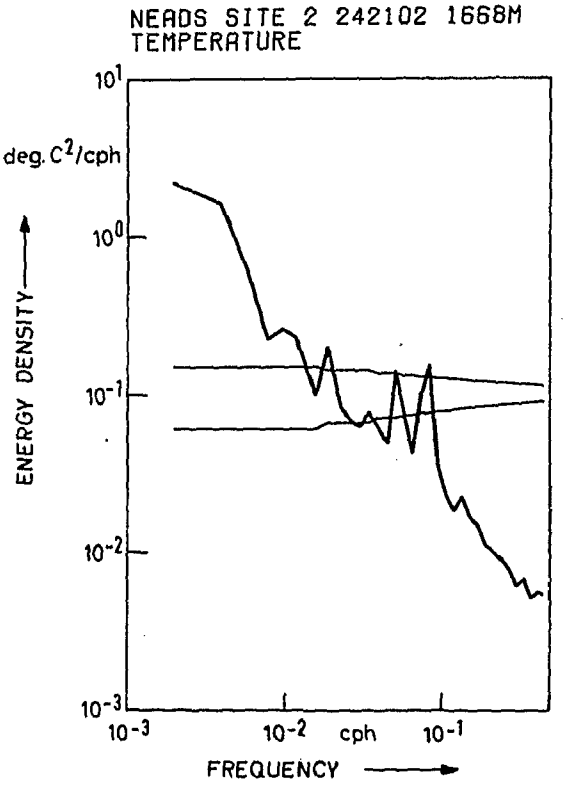
FILE: NEADS SITE2 4181 m MOORING ID: 242104 START-CYCLE: 1. STOP-CYCLE: 5516. NUMBER OF HOURS: 5516

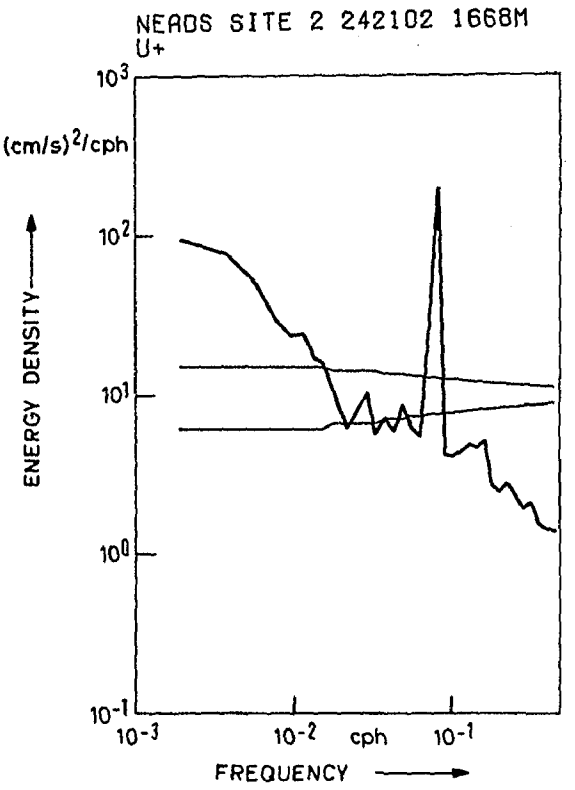
SAMPLING INTERVAL (MINUTES) : 0.600000+02

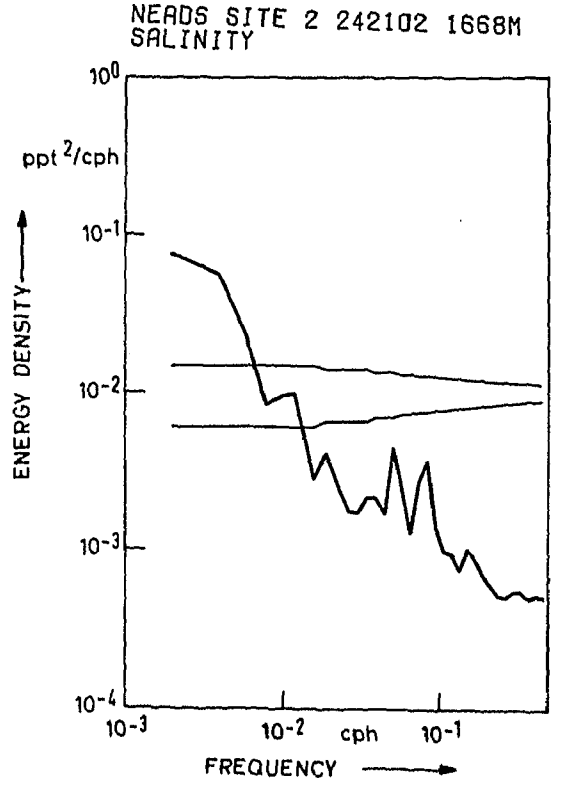
	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.2920E-01	0.2708E-01	-0.4960E-06	0.9846E-04	0.5348E-04	0.7313E-02	0.1422E-01	0.3430E+01
2	UC	[CM/S]	-0.8730E+01	0.8785E+01	0.8927E-03	0.2761E-01	0.4205E+01	0.2051E+01	0.6160E+00	0.3794E+01
3	VC	[CM/S]	-0.8677E+01	0.8636E+01	0.1739E-02	0.2321E-01	0.2970E+01	0.1723E+01	0.4192E-01	0.5575E+01

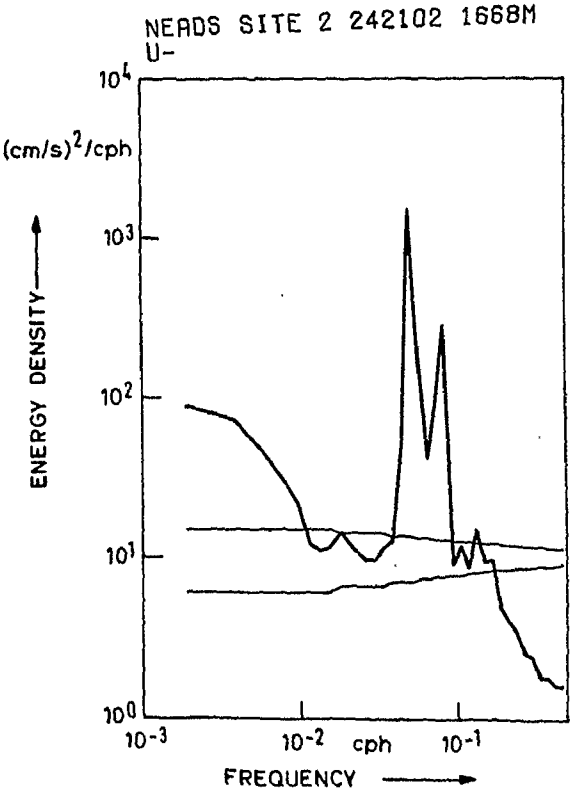
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1955E-02	0.3588E+01	0.1894E+01	0.2550E-01	27.17

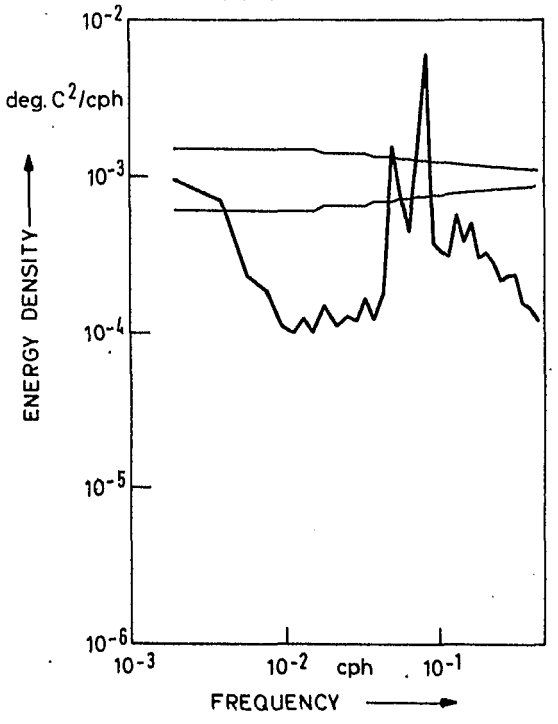

NEADS SITE 2 242102 1668M
PRESSURE
10^3
dbar^2/cph
10^2
10^1
10^0
10^{-1}
ENERGY DENSITY
10^{-3}
10^{-2}
cph
10^{-1}
FREQUENCY

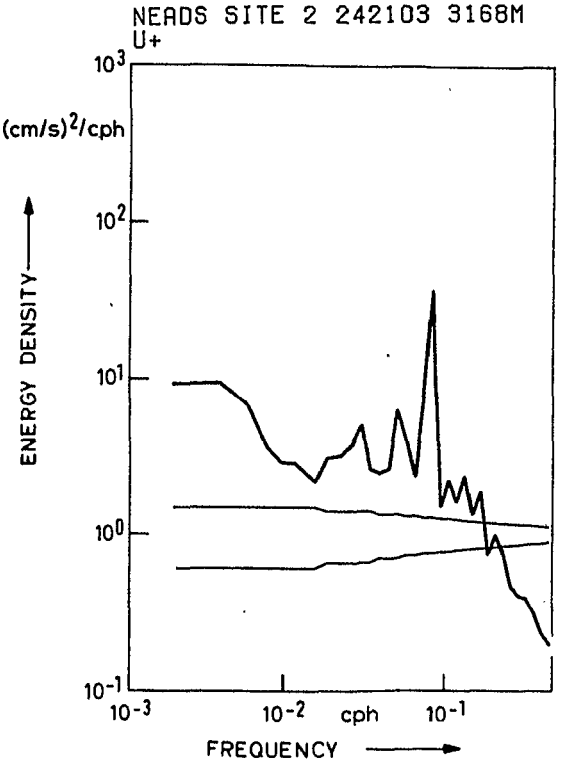

NEADS SITE 2 242102 1668M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

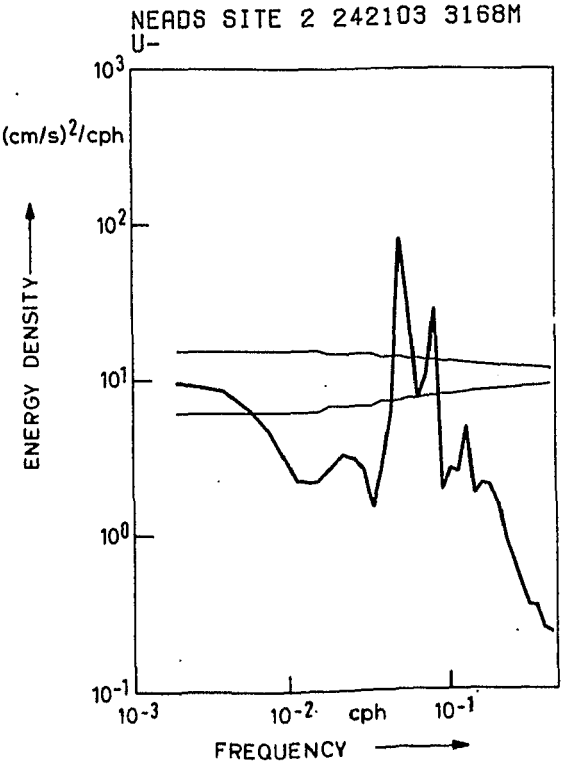

NEADS SITE 2 242102 1668M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

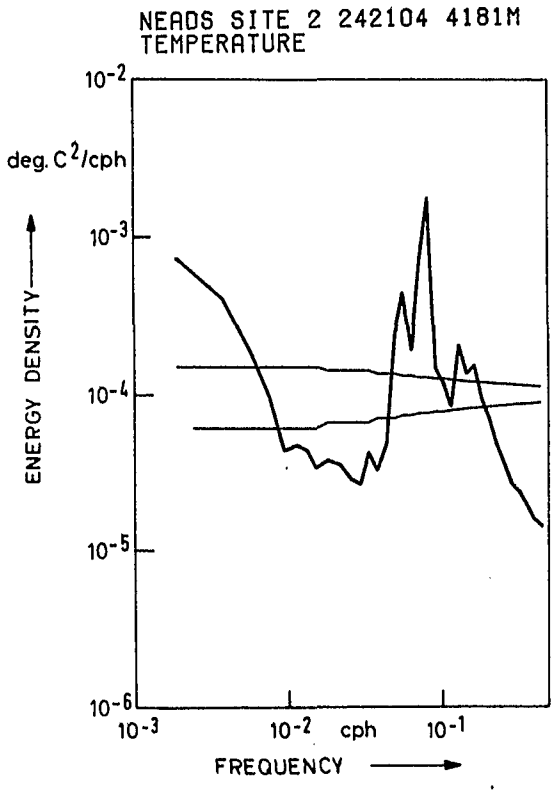

NEADS SITE 2 242102 1668M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

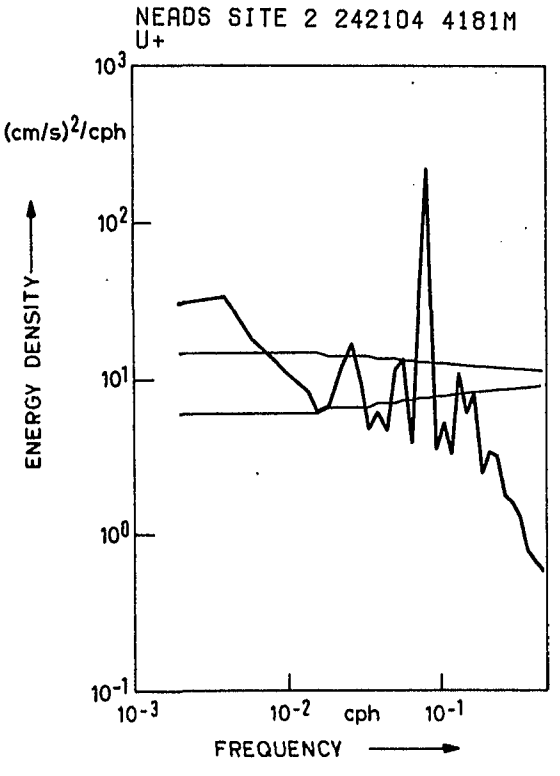

NEADS SITE 2 242102 1668M
U-
(cm/s)²/cph
ENERGY DENSITY
10⁴
10³
10²
10¹
10⁰
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

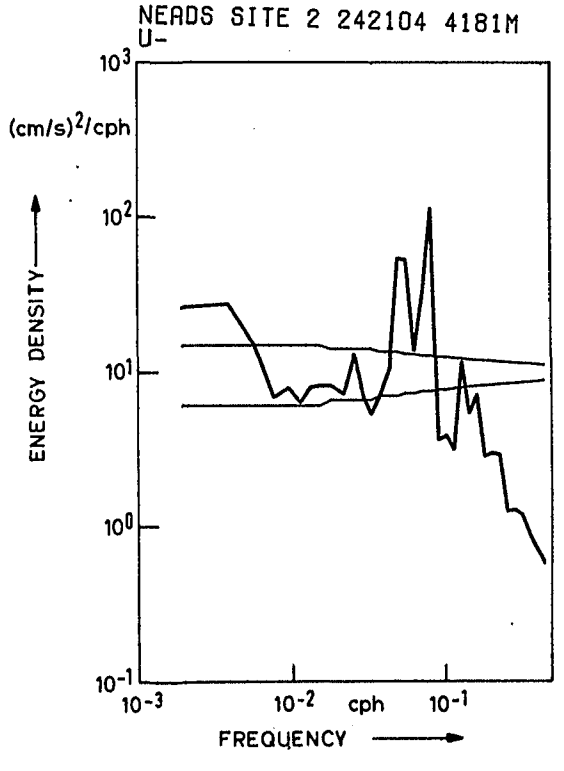

NEADS SITE 2 242103 3168M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 242103 3168M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 242103 3168M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 242104 4181M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 242104 4181M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2 242104 4181M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

FILE: NEADS SITE2 788 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 547. NUMBER OF DAYS: 547

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.9682E+01	0.1131E+02	0.1054E+02	0.1235E-01	0.8348E-01	0.2889E+00	0.1345E+00	0.2845E+01
2	SAL	[PPT]	0.3558E+02	0.3633E+02	0.3607E+02	0.4368E-02	0.1044E-01	0.1022E+00	-0.1707E+01	0.8459E+01
3	UC	[CM/S]	-0.1980E+02	0.8709E+01	-0.1232E+01	0.2206E+00	0.2663E+02	0.5160E+01	-0.1012E+01	0.3895E+01
4	VC	[CM/S]	-0.2517E+02	0.8879E+01	0.1873E-01	0.2371E+00	0.3076E+02	0.5546E+01	-0.1583E+01	0.6821E+01
5	SIGT	[ ]	0.2735E+02	0.2777E+02	0.2771E+02	0.2359E-02	0.3043E-02	0.5517E-01	-0.3204E+01	0.1698E+02

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.1232E+01	0.2869E+02	0.5357E+01	0.2290E+00	270.87

FILE: NEADS SITE2 1668 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 381. NUMBER OF DAYS: 381

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.4575E+01	0.5815E+01	0.5330E+01	0.1208E-01	0.5564E-01	0.2359E+00	-0.4158E+00	0.3068E+01
2	SAL	[PPT]	0.3512E+02	0.3541E+02	0.3530E+02	0.3188E-02	0.3872E-02	0.6222E-01	-0.1203E+01	0.4070E+01
3	UC	[CM/S]	-0.3739E+01	0.6147E+01	0.8465E+00	0.1004E+00	0.3837E+01	0.1959E+01	-0.1159E+00	0.2461E+01
4	VC	[CM/S]	-0.5322E+01	0.5058E+01	-0.1569E+00	0.1362E+00	0.7072E+01	0.2659E+01	0.4266E-01	0.1765E+01
5	SIGT	[ ]	0.2781E+02	0.2795E+02	0.2790E+02	0.1472E-02	0.8258E-03	0.2874E-01	-0.1366E+01	0.4536E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
3	4	0.8610E+00	0.5455E+01	0.2335E+01	0.1197E+00	100.50

FILE: NEADS SITE2 1668 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 234. NUMBER OF DAYS: 234

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	0.1655E+04	0.1677E+04	0.1663E+04	0.2571E+00	0.1547E+02	0.3933E+01	0.1342E+01	0.5875E+01

FILE: NEADS SITE2 3168 m, FILTERED , DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 657. NUMBER OF DAYS: 657

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2707E+01	0.2797E+01	0.2744E+01	0.7715E-03	0.3911E-03	0.1978E-01	0.1695E+00	0.2227E+01
2	UC	[CM/S]	-0.2803E+01	0.3020E+01	0.4438E+00	0.3710E-01	0.9043E+00	0.9509E+00	-0.1401E+00	0.3646E+01
3	VC	[CM/S]	-0.2416E+01	0.1988E+01	0.7182E-01	0.3130E-01	0.6437E+00	0.8023E+00	0.2938E-01	0.2776E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.4495E+00	0.7740E+00	0.8798E+00	0.3432E-01	80.81

FILE: NEADS SITE2 4181 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 433. NUMBER OF DAYS: 433

SAMPLING INTERVAL (MINUTES) : 0.14400B+04

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2498E+01	0.2533E+01	0.2509E+01	0.2387E-03	0.2467E-04	0.4967E-02	0.8983E+00	0.5981E+01
2	UC	[CM/S]	-0.1391E+01	0.4812E+01	0.1231E+01	0.4838E-01	0.1013E+01	0.1007E+01	0.4063E+00	0.2881E+01
3	VC	[CM/S]	-0.2129E+01	0.3021E+01	0.4275E+00	0.4102E-01	0.7284E+00	0.8535E+00	0.8414E-01	0.3182E+01

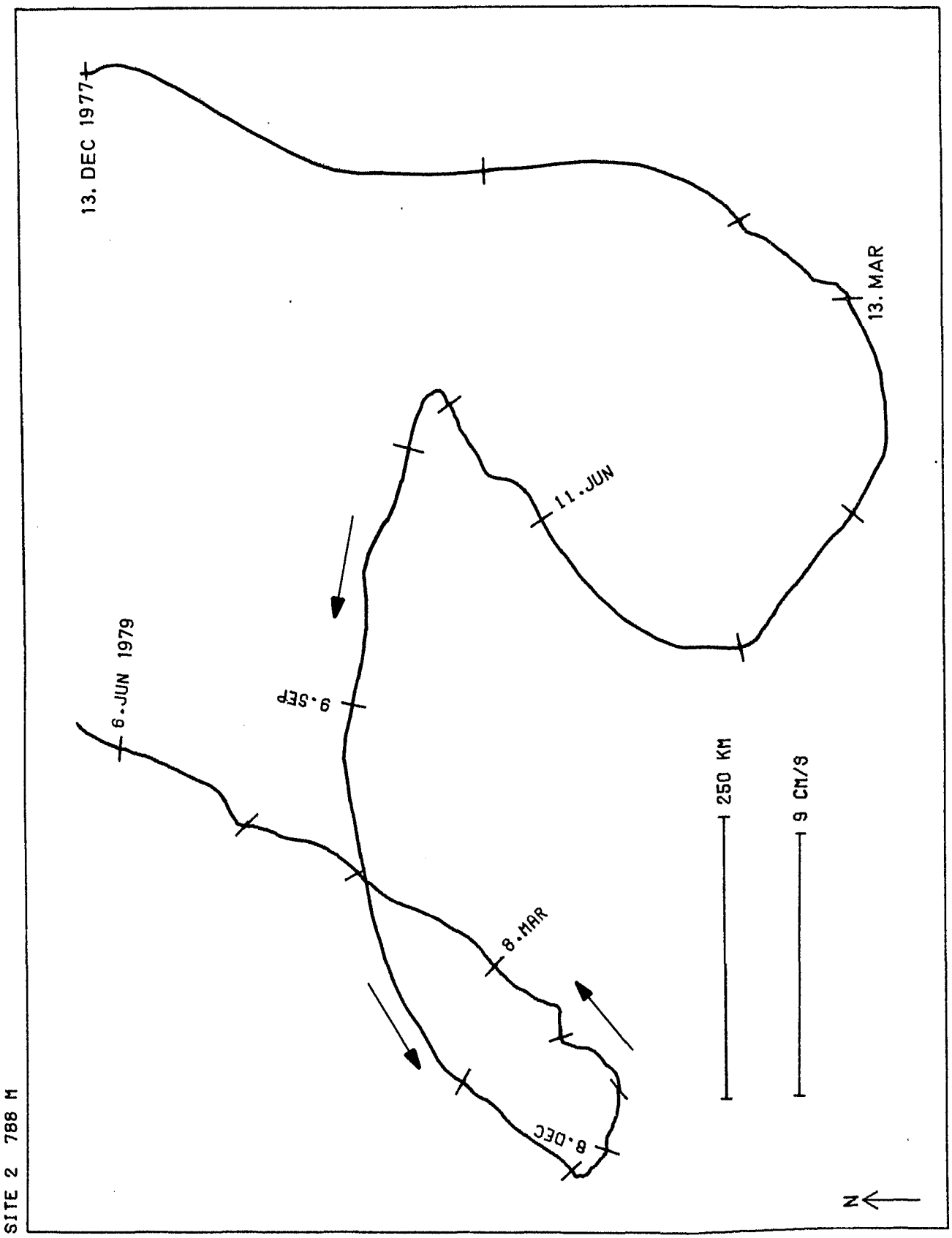
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1303E+01	0.8709E+00	0.9332E+00	0.4485E-01	70.85

FILE: NEADS SITE2 5079 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 146. NUMBER OF DAYS: 146

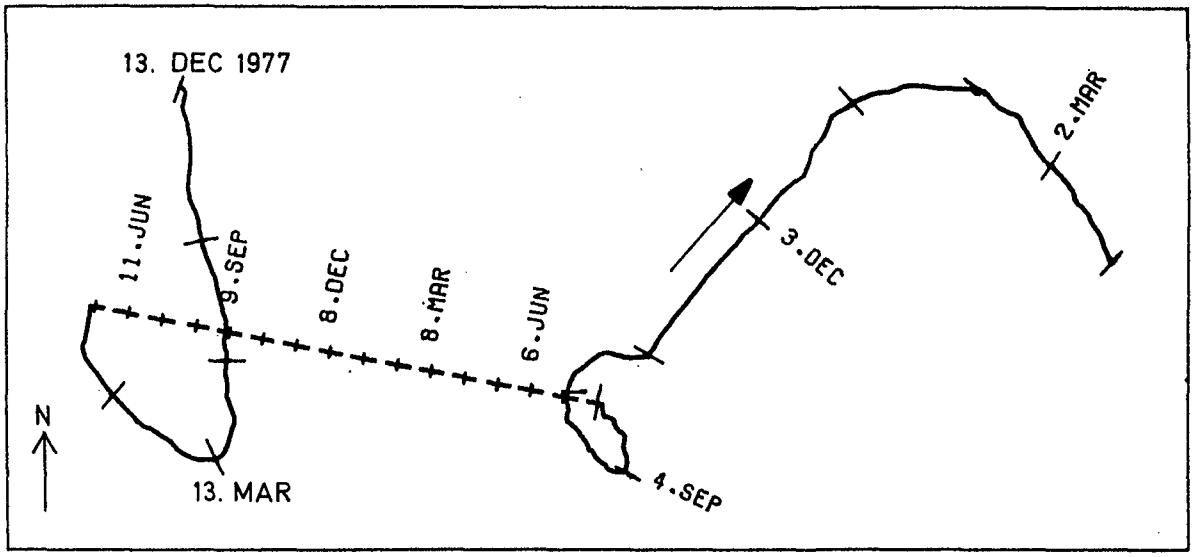
SAMPLING INTERVAL (MINUTES) : 0.14400D+04

VARIABLE		UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2539E+01	0.2548E+01	0.2541E+01	0.1995E-03	0.5809E-05	0.2410E-02	0.1796E+01	0.4721E+01
2	UC	[CM/S]	-0.9156E+00	0.2349E+01	0.6680E+00	0.5268E-01	0.4052E+00	0.6366E+00	-0.4115E-01	0.2532E+01
3	VC	[CM/S]	-0.6082E+00	0.2424E+01	0.1088E+01	0.5753E-01	0.4832E+00	0.6951E+00	-0.2921E+00	0.2244E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1277E+01	0.4442E+00	0.6665E+00	0.5516E-01	31.55

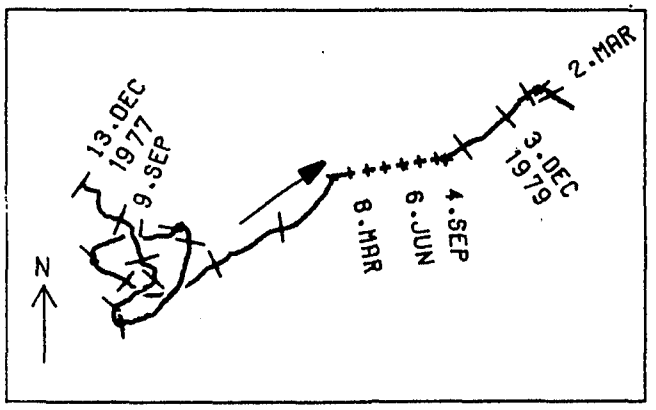

13. DEC 1977
13. MAR
11. JUN
9. SEP
6. JUN 1979
8. MAR
8. DEC
250 KM
9 CM/S
N
SITE 2 788 M

SITE 2 1668 M

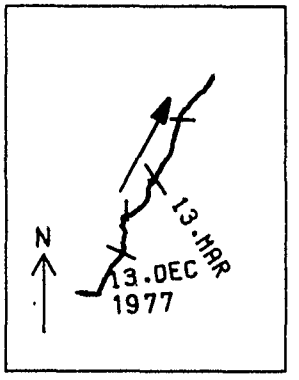


200 KM 7 CM/S

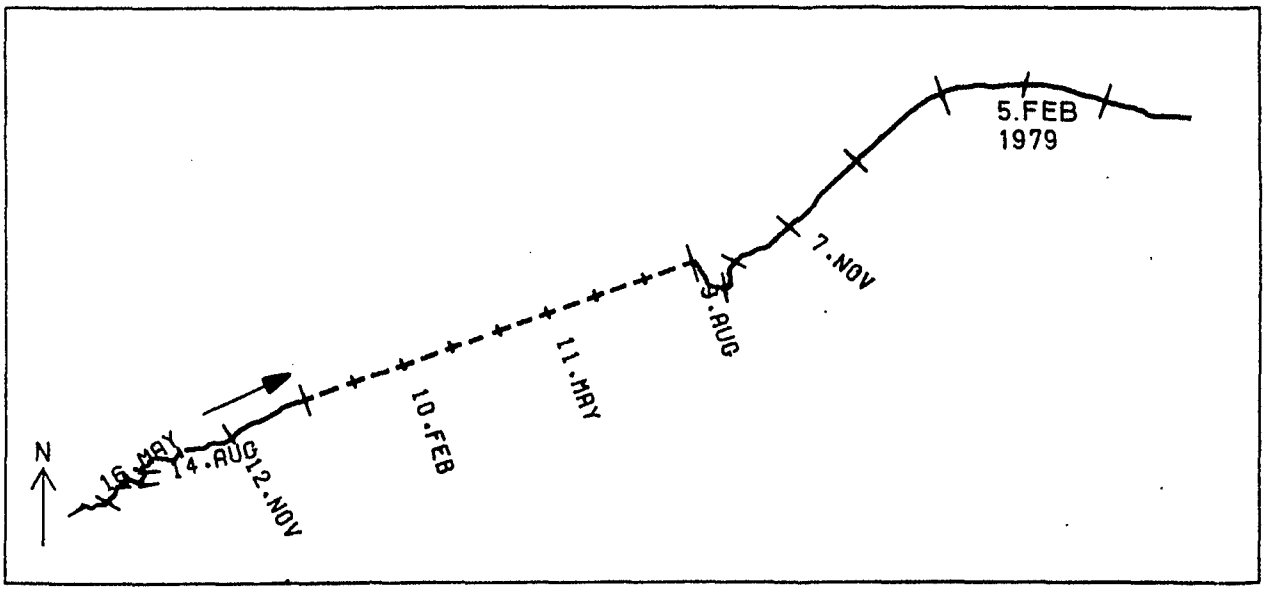
SITE 2 3168 M

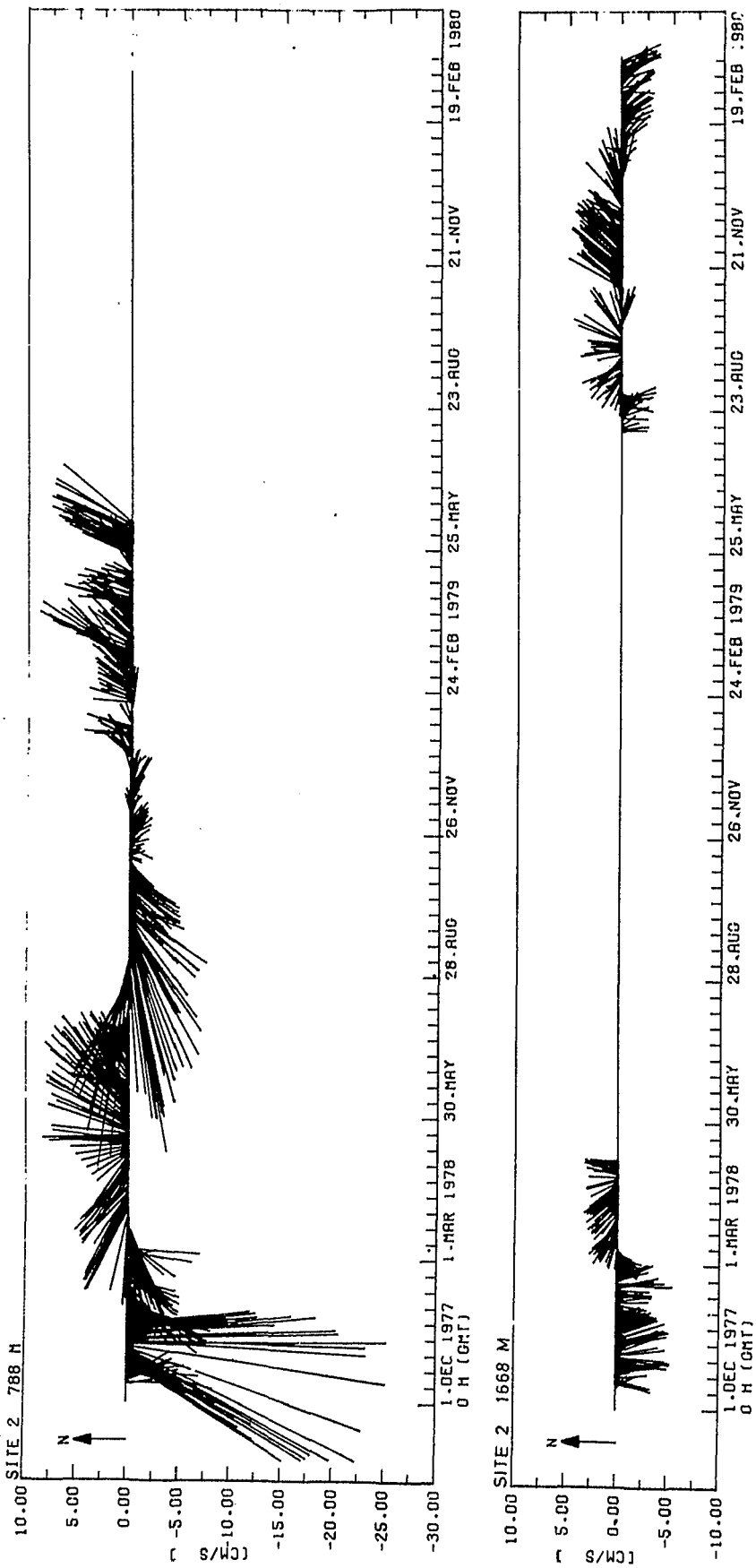


SITE 2 5079 M



SITE 2 4181 M

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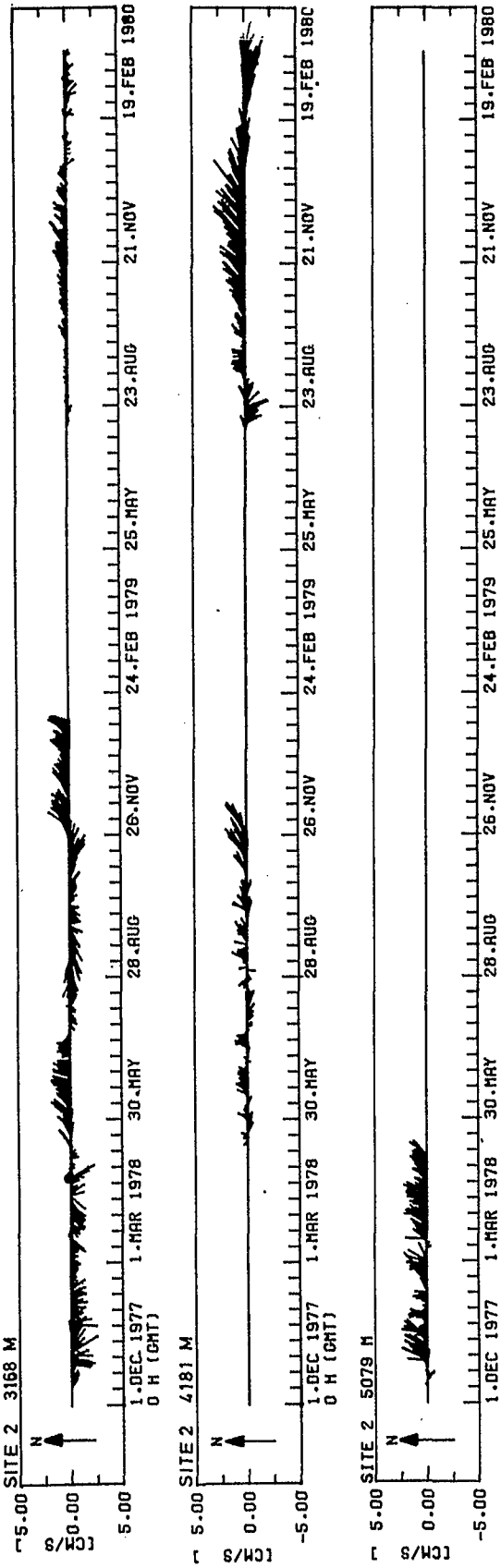
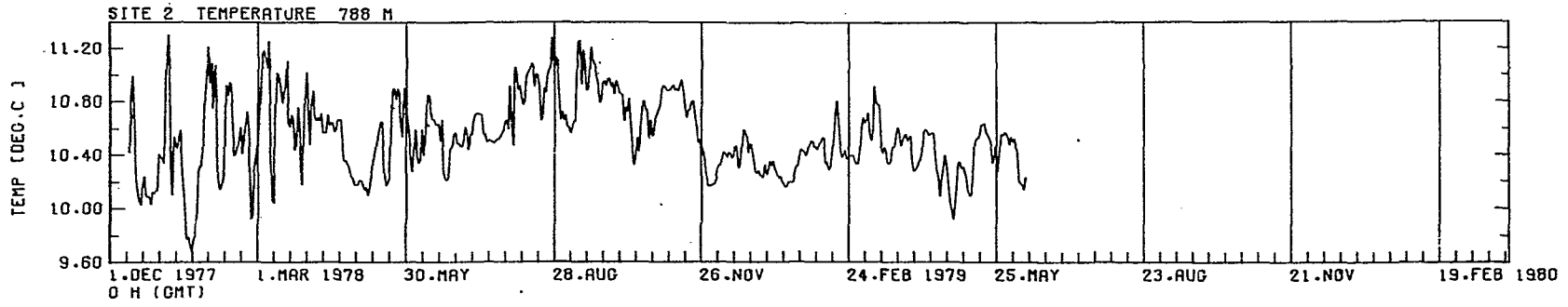
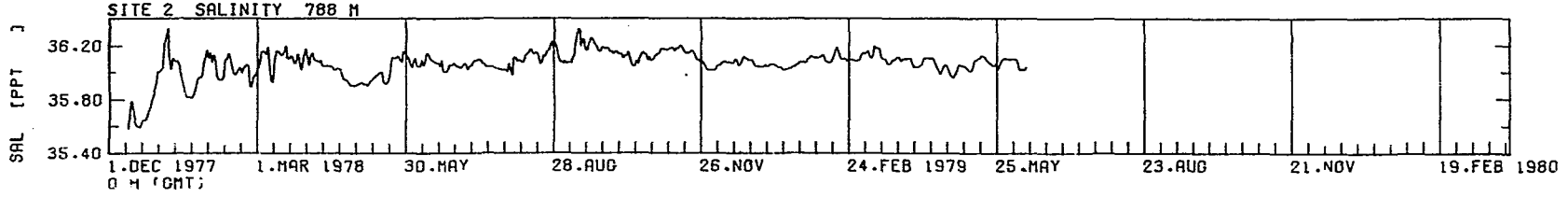
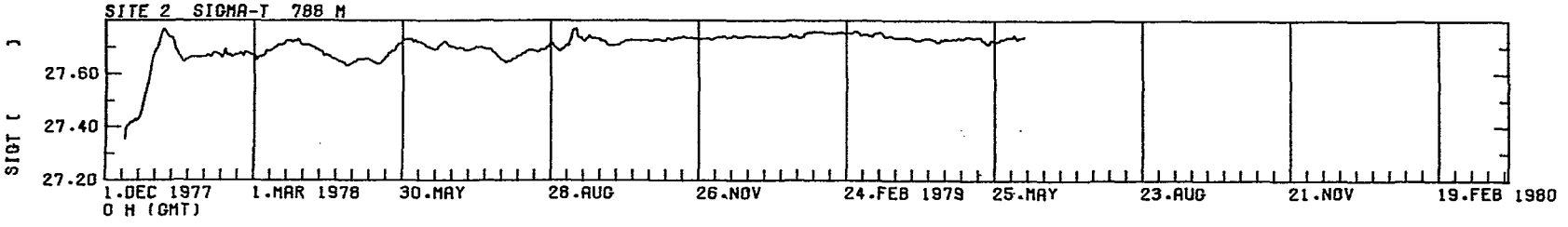
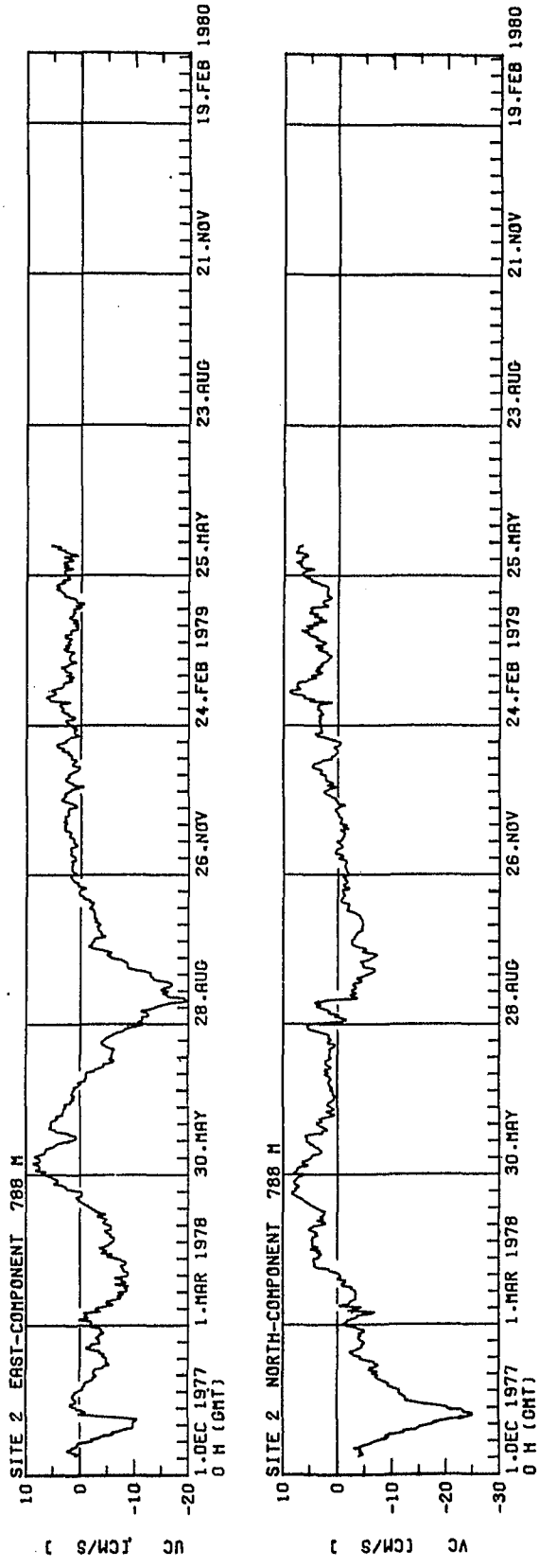
N
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
-25.00
-30.00
[CM/S]
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 1668 M
N
10.00
5.00
0.00
-5.00
-10.00
[CM/S]
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 198

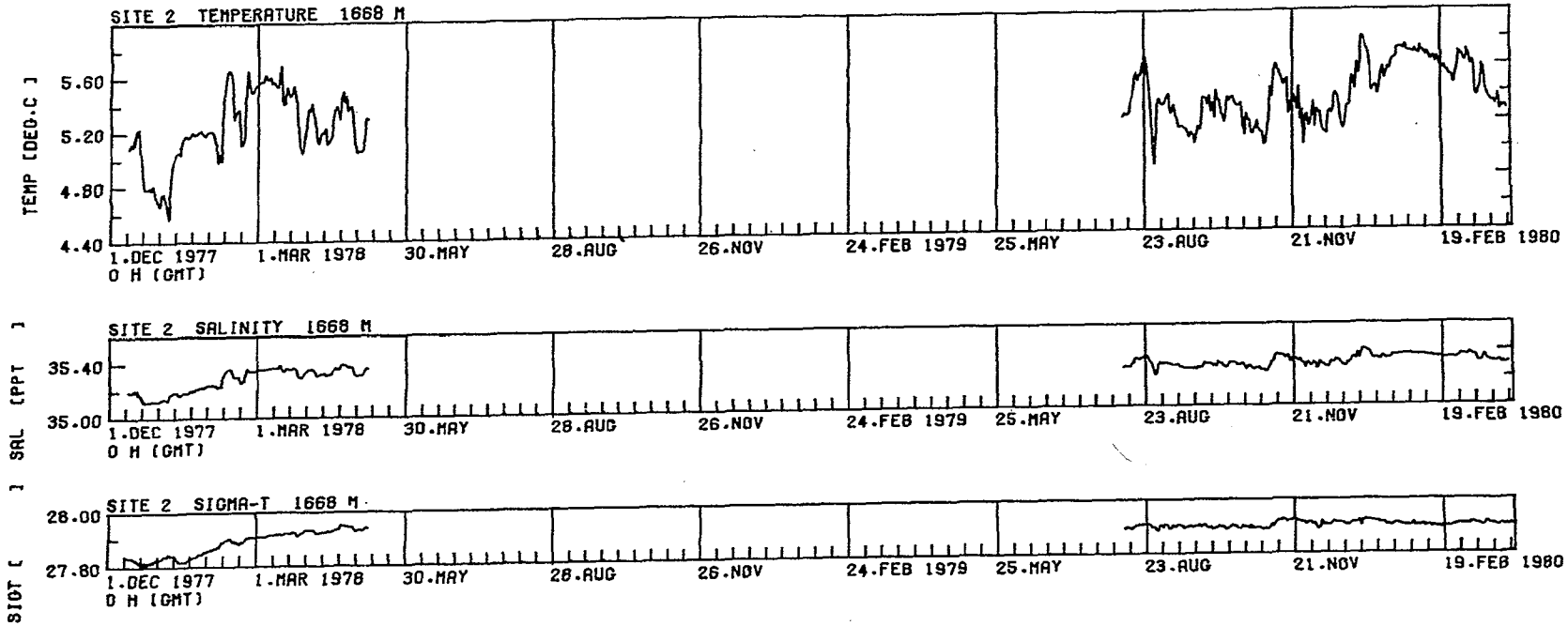

SITE 2 3168 M
N
5.00
0.00
-5.00
CM/S
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 4181 M
N
5.00
0.00
-5.00
CM/S
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 5079 M
N
5.00
0.00
-5.00
CM/S
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980

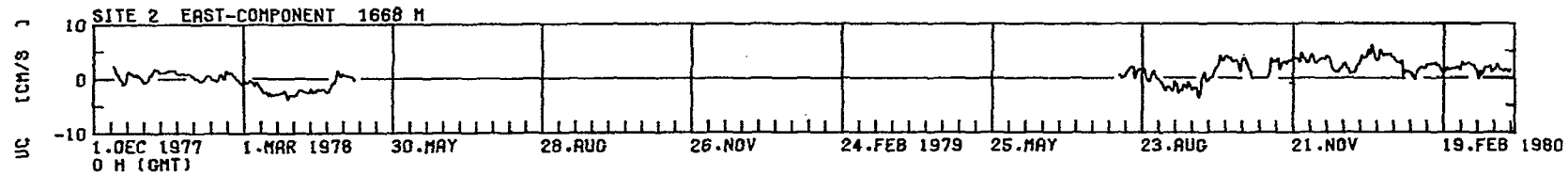

SITE 2 TEMPERATURE 788 M
TEMP [DEG.C]
11.20
10.80
10.40
10.00
9.60
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980

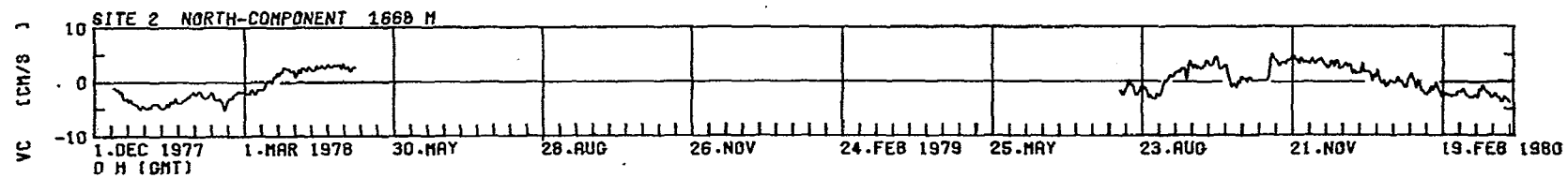

SITE 2 SALINITY 788 M
SAL [PPT]
36.20
35.80
35.40
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980

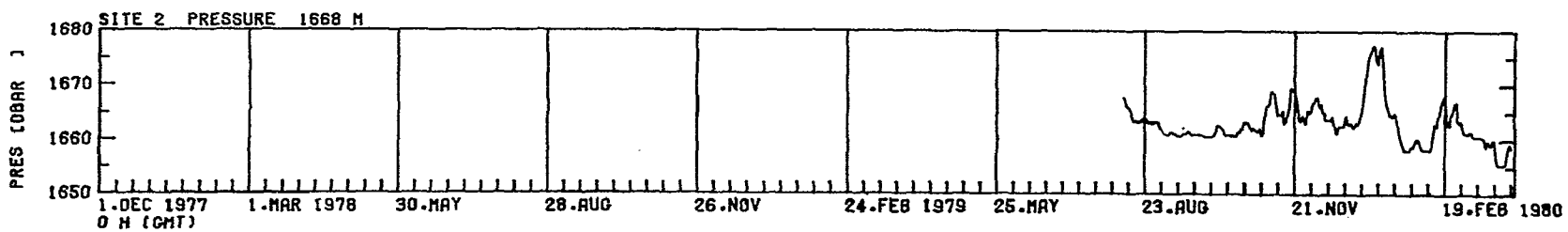

SITE 2 SIGMA-T 788 M
SIGT [ ]
27.60
27.40
27.20
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980

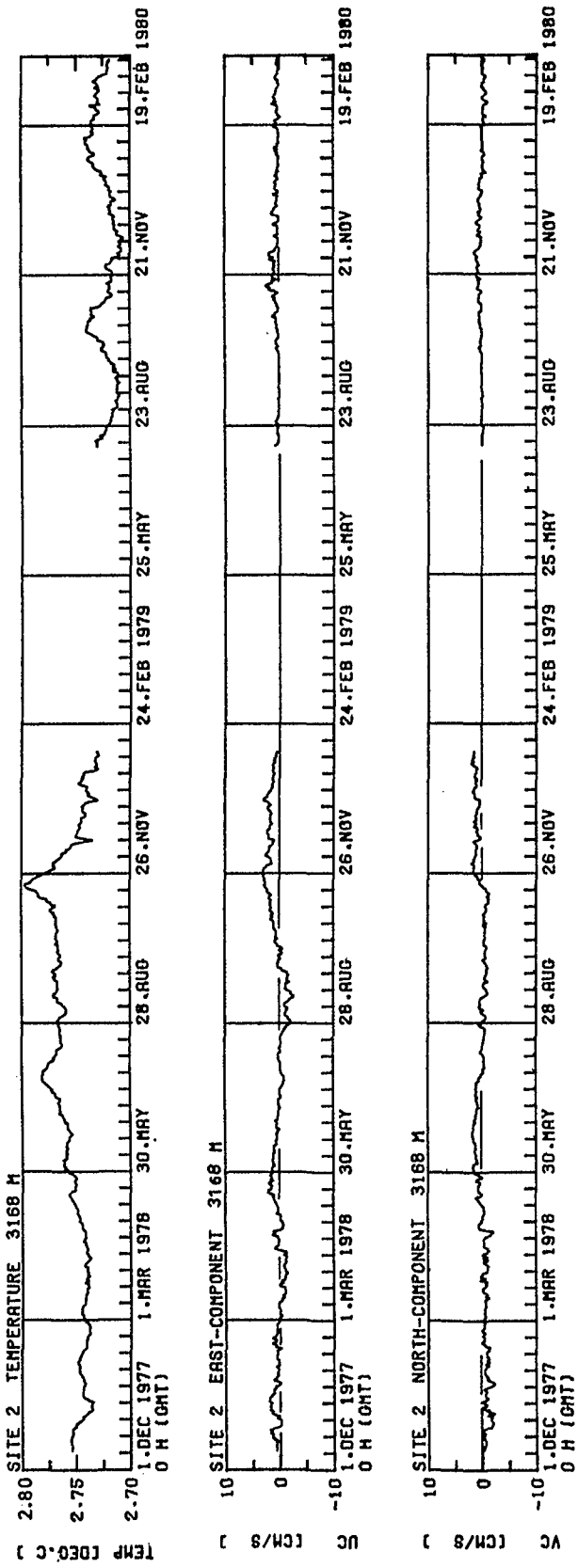

SITE 2 EAST-COMPONENT 788 M
SITE 2 NORTH-COMPONENT 788 M
VC (CM/S)
10
0
-10
-20
-30
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980

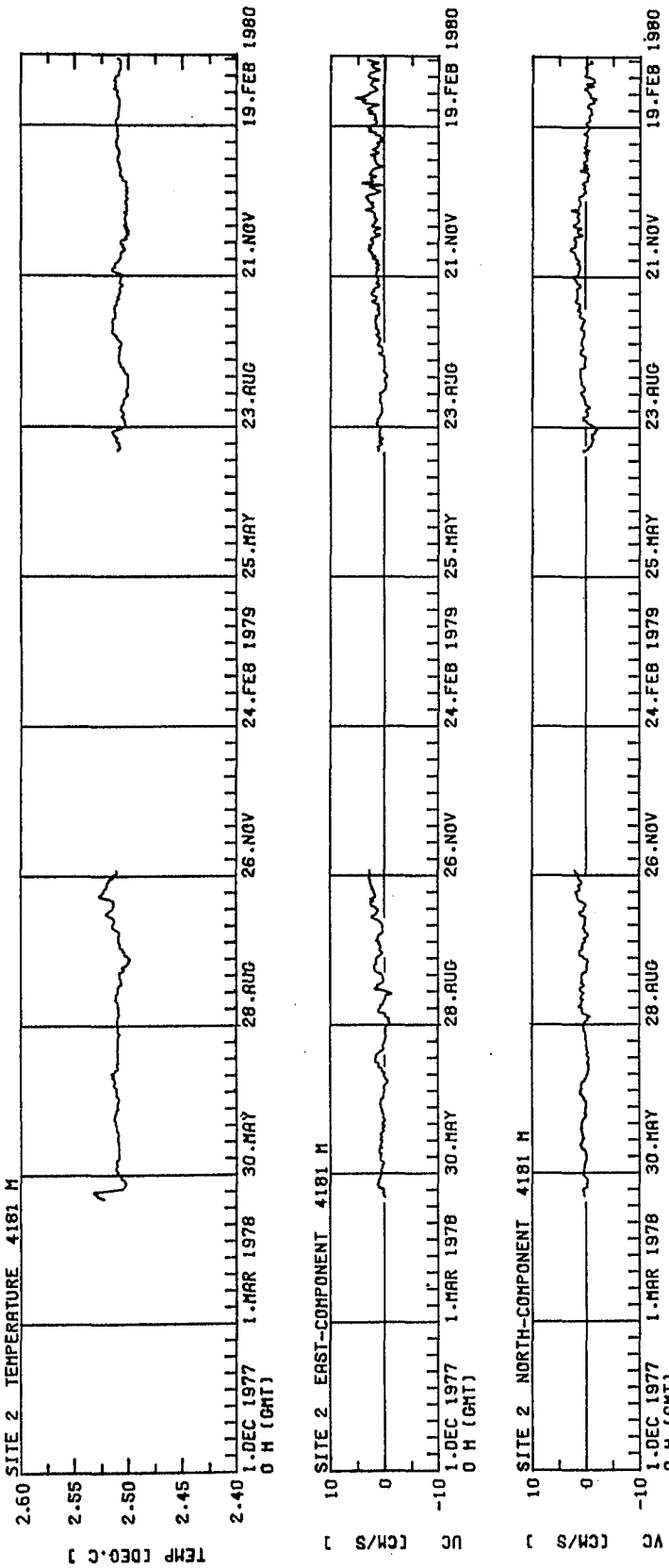

SITE 2 TEMPERATURE 1668 M
TEMP [DEG.C]
5.60
5.20
4.80
4.40
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 SALINITY 1668 M
SAL [PPT]
35.40
35.00
SITE 2 SIGMA-T 1668 M
SIGT [ ]
28.00
27.80

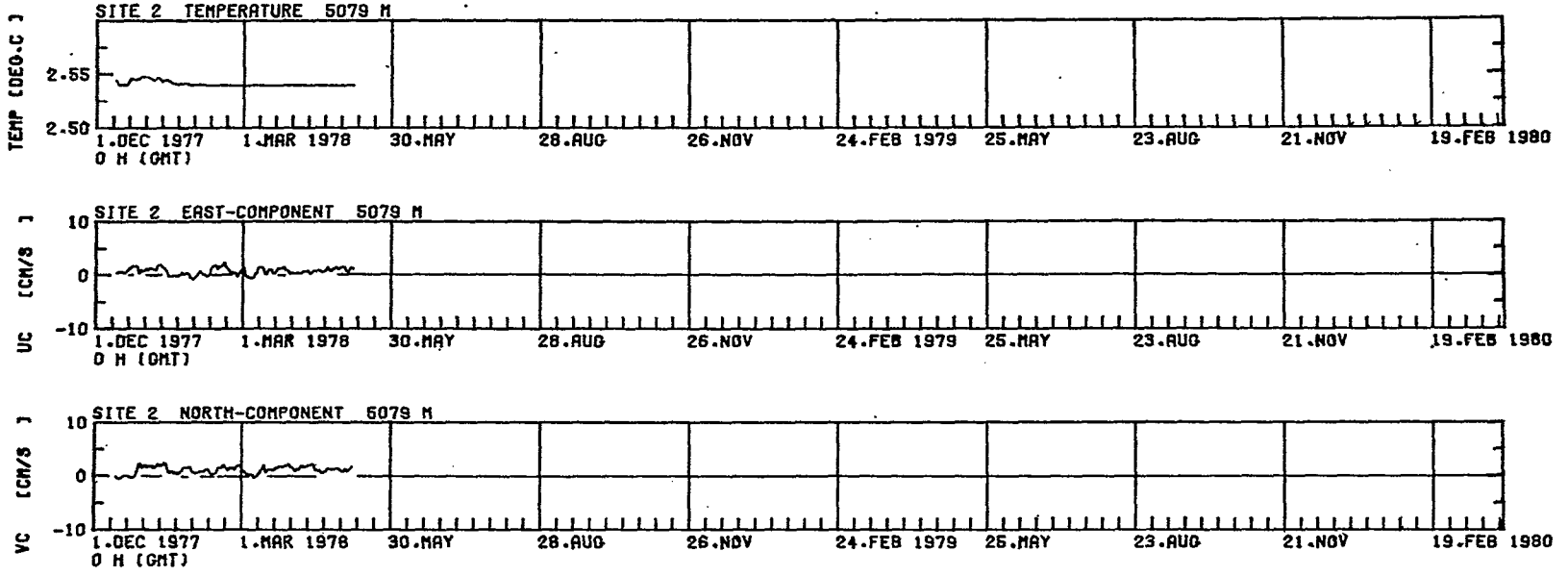

SITE 2 EAST-COMPONENT 1668 M
UC [CM/S]
10
0
-10
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980


SITE 2 NORTH-COMPONENT 1668 M
VC [CM/S]
10
0
-10
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980


SITE 2 PRESSURE 1668 M
PRES [DBAR]
1680
1670
1660
1650
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980


SITE 2 TEMPERATURE 3168 M
TEMP (DEG.C)
2.80
2.75
2.70
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 EAST-COMPONENT 3168 M
UC (CM/S)
10
0
-10
SITE 2 NORTH-COMPONENT 3168 M
VC (CM/S)


SITE 2 TEMPERATURE 4181 M
TEMP [DEG.C]
2.60
2.55
2.50
2.45
2.40
1.DEC 1977
0 H (GMT)
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
SITE 2 EAST-COMPONENT 4181 M
UC [CM/S]
10
0
-10
SITE 2 NORTH-COMPONENT 4181 M
VC [CM/S]


SITE 2 TEMPERATURE 5079 M
TEMP [DEG.C]
2.55
2.50
1.DEC 1977
1.MAR 1978
30.MAY
28.AUG
26.NOV
24.FEB 1979
25.MAY
23.AUG
21.NOV
19.FEB 1980
0 H (GMT)
SITE 2 EAST-COMPONENT 5079 M
UC [CM/S]
10
0
-10
SITE 2 NORTH-COMPONENT 5079 M
VC [CM/S]

FILE: NEADS SI2.5 485 m MOORING ID: 230101 START-CYCLE: 1. STOP-CYCLE: 5714. NUMBER OF HOURS: 5714

SAMPLING INTERVAL (MINUTES) : 0.600000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	-0.1387E+02	0.1846E+02	0.5200E-03	0.2396E-01	0.3279E+01	0.1811E+01	0.1015E+01	0.1686E+02
2	TEMP	[DEG.C]	-0.2584E+00	0.2459E+00	0.2938E-04	0.6407E-03	0.2345E-02	0.4843E-01	0.5665E-01	0.4388E+01
3	SAL	[PPT]	-0.2424E+00	0.8598E-01	0.7130E-05	0.1745E-03	0.1740E-03	0.1319E-01	-0.8724E+00	0.2368E+02
4	UC	[CM/S]	-0.1382E+02	0.1312E+02	-0.3056E-02	0.4390E-01	0.1101E+02	0.3318E+01	-0.3606E-01	0.3514E+01
5	VC	[CM/S]	-0.9971E+01	0.1073E+02	-0.3698E-02	0.3498E-01	0.6991E+01	0.2644E+01	0.5798E-01	0.3289E+01
6	SIGT	[ ]	-0.1961E+00	0.6834E-01	0.7271E-06	0.1629E-03	0.1516E-03	0.1231E-01	-0.5647E+00	0.1446E+02

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
4	5	0.4798E-02	0.9002E+01	0.3000E+01	0.3969E-01	219.57

FILE: NEADS SI2.5 2945 m MOORING ID: 230103 START-CYCLE: 1. STOP-CYCLE: 4754. NUMBER OF HOURS: 4754

SAMPLING INTERVAL (MINUTES) : 0.600000D+02

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.5383E-01	0.6243E-01	0.1367E-04	0.2264E-03	0.2436E-03	0.1561E-01	0.4781E-01	0.3041E+01
2	UC	[CM/S]	-0.6908E+01	0.8355E+01	0.1062E-02	0.3110E-01	0.4599E+01	0.2145E+01	0.5341E-01	0.3161E+01
3	VC	[CM/S]	-0.6138E+01	0.6016E+01	-0.6194E-03	0.2356E-01	0.2639E+01	0.1625E+01	-0.2215E+00	0.3654E+01

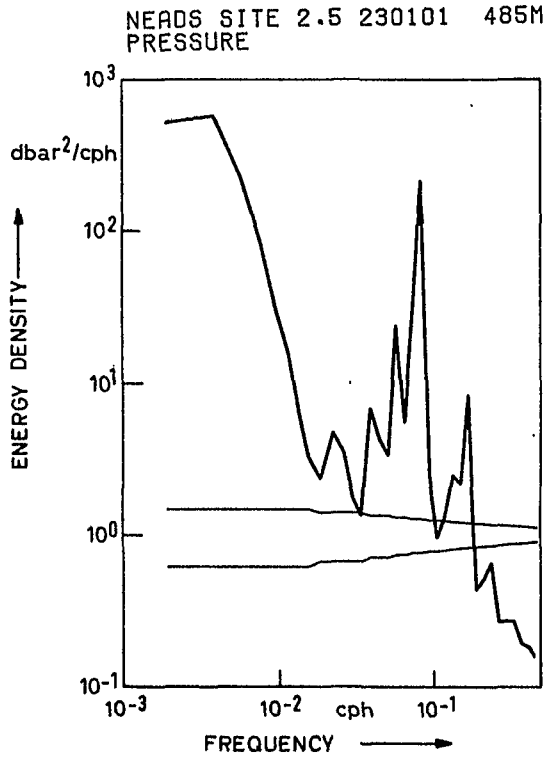
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.1229E-02	0.3619E+01	0.1902E+01	0.2759E-01	120.25

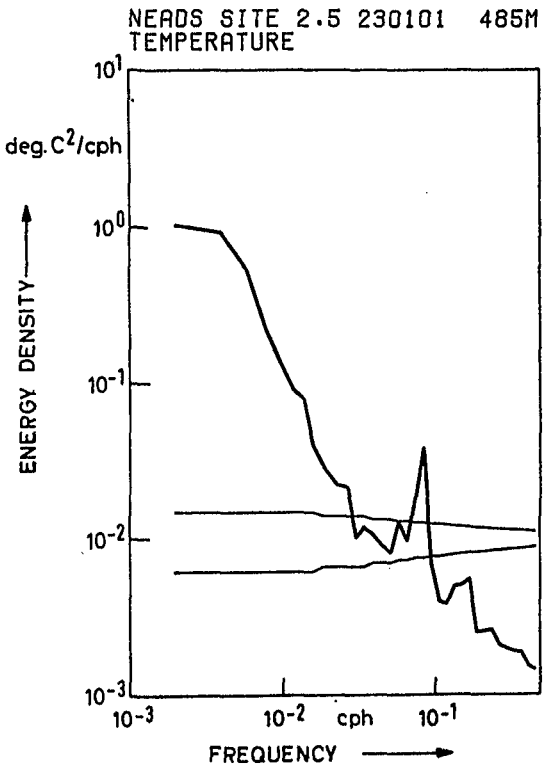
FILE: NEADS3 SI2.5 4050 m MOORING ID: 230104 START-CYCLE: 1. STOP-CYCLE: 5714. NUMBER OF HOURS: 5714

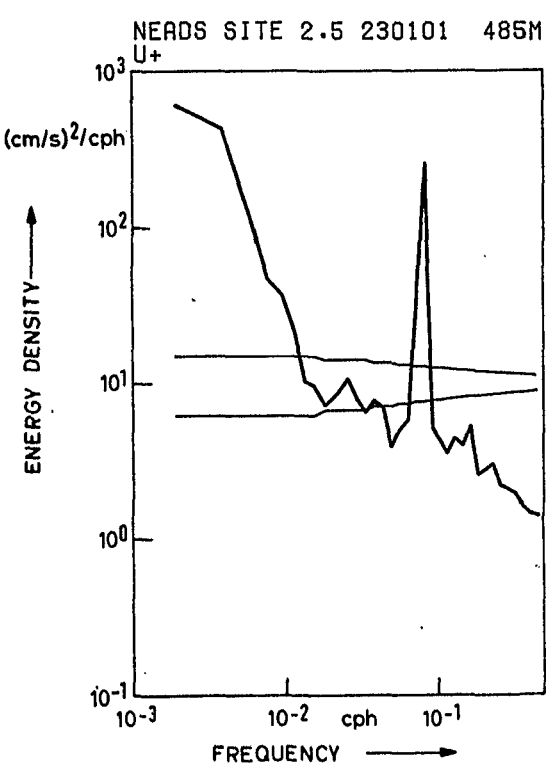
SAMPLING INTERVAL (MINUTES) : 0.600000D+02

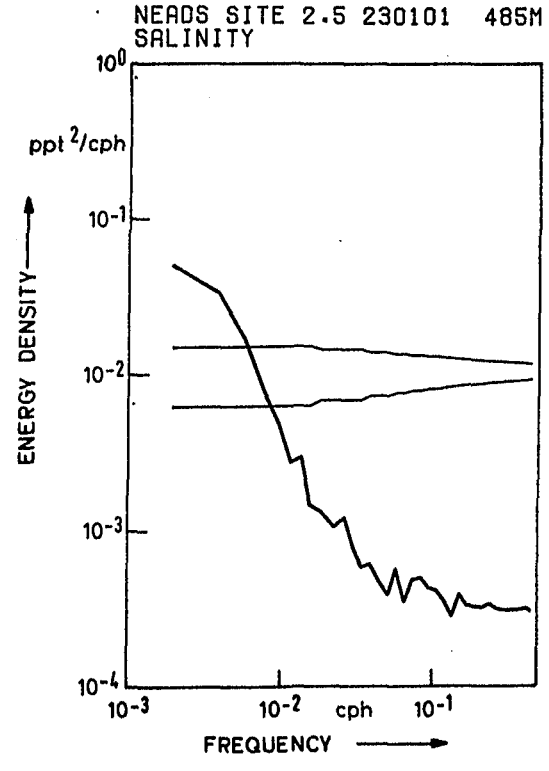
	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	-0.3995E-01	0.2562E-01	0.1046E-05	0.1030E-03	0.6057E-04	0.7783E-02	-0.7608E-02	0.3135E+01
2	UC	[CM/S]	-0.1204E+02	0.6886E+01	-0.6451E-03	0.2077E-01	0.2466E+01	0.1570E+01	-0.2011E+00	0.3980E+01
3	VC	[CM/S]	-0.5232E+01	0.6214E+01	-0.2025E-03	0.1830E-01	0.1915E+01	0.1384E+01	-0.5053E-02	0.3876E+01

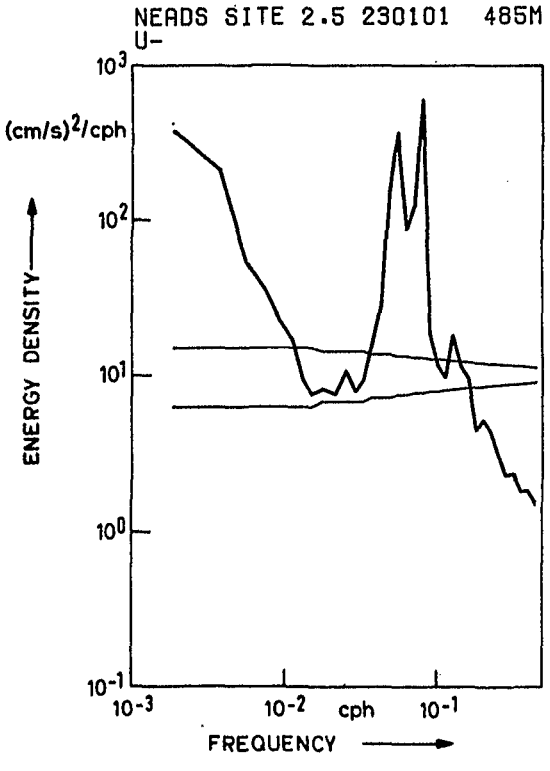
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.6761E-03	0.2190E+01	0.1480E+01	0.1958E-01	252.57

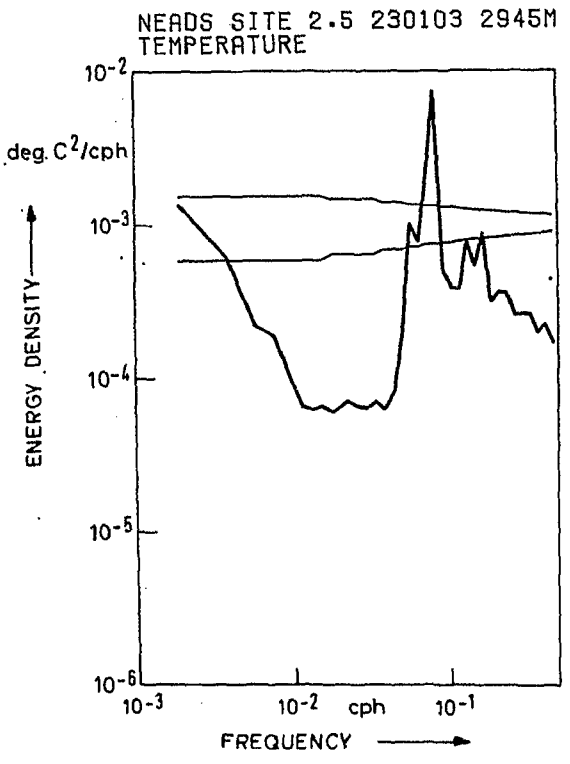

NEADS SITE 2.5 230101 485M
PRESSURE
10^3
dbar^2/cph
10^2
10^1
10^0
10^{-1}
ENERGY DENSITY
10^{-3}
10^{-2}
cph
10^{-1}
FREQUENCY

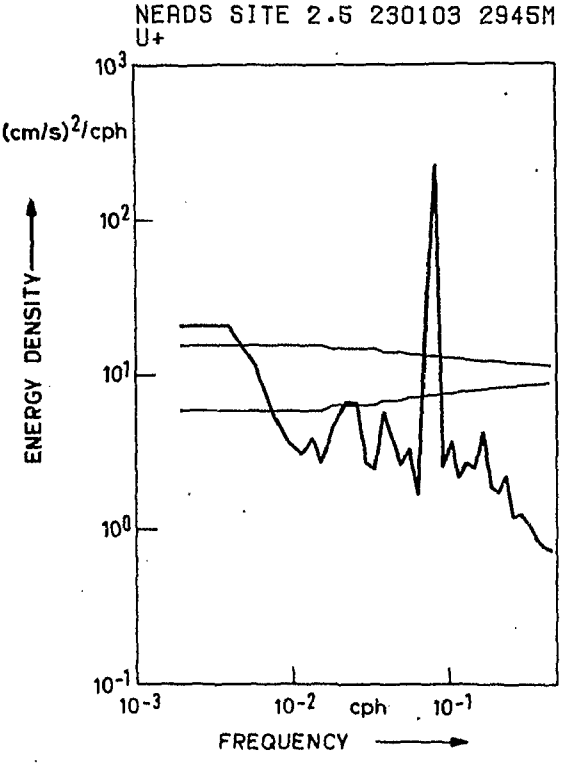

NEADS SITE 2.5 230101 485M
TEMPERATURE
deg.C²/cph
ENERGY DENSITY
10¹
10⁰
10⁻¹
10⁻²
10⁻³
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

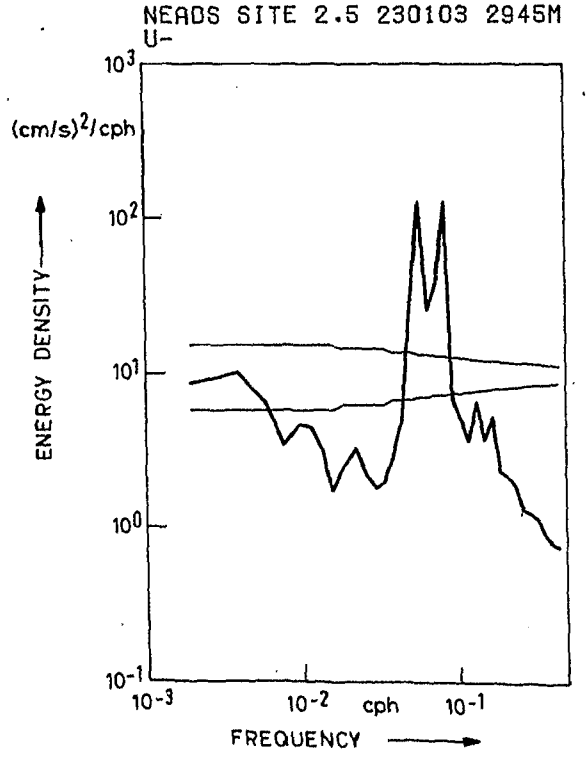

NEADS SITE 2.5 230101 485M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

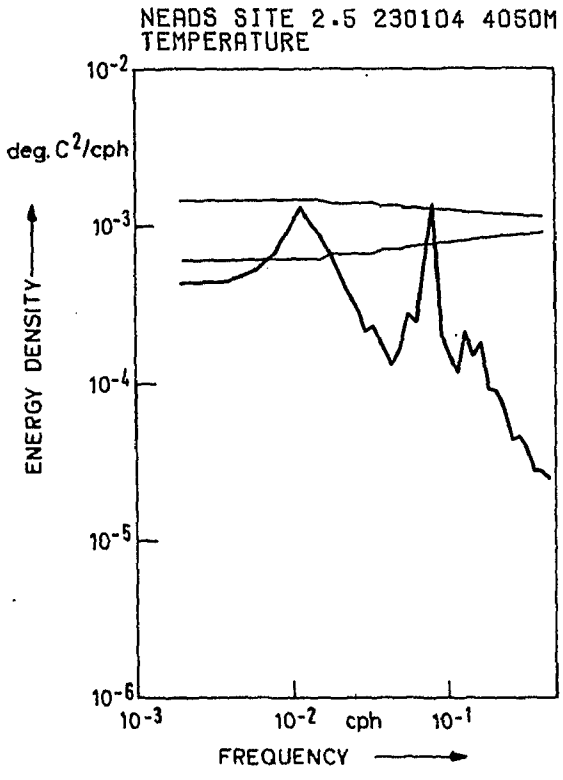

NEADS SITE 2.5 230101 485M
SALINITY
ppt²/cph
ENERGY DENSITY
10⁰
10⁻¹
10⁻²
10⁻³
10⁻⁴
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

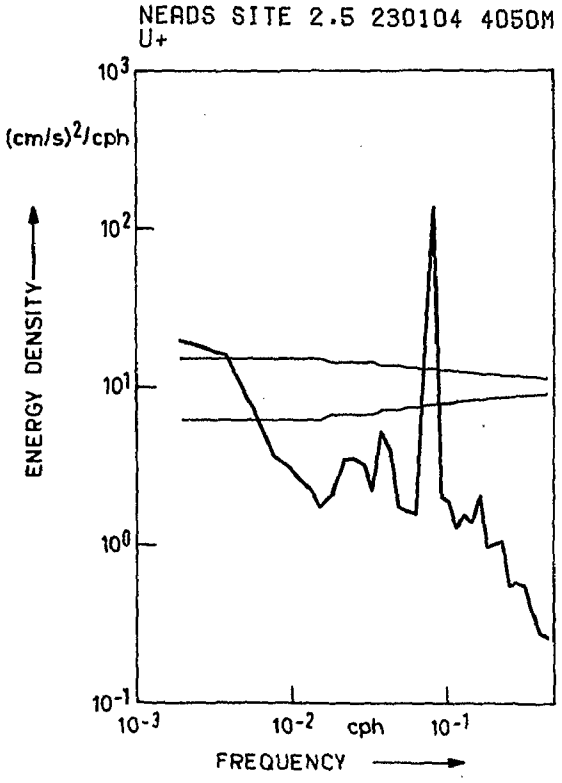

NEADS SITE 2.5 230101 485M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

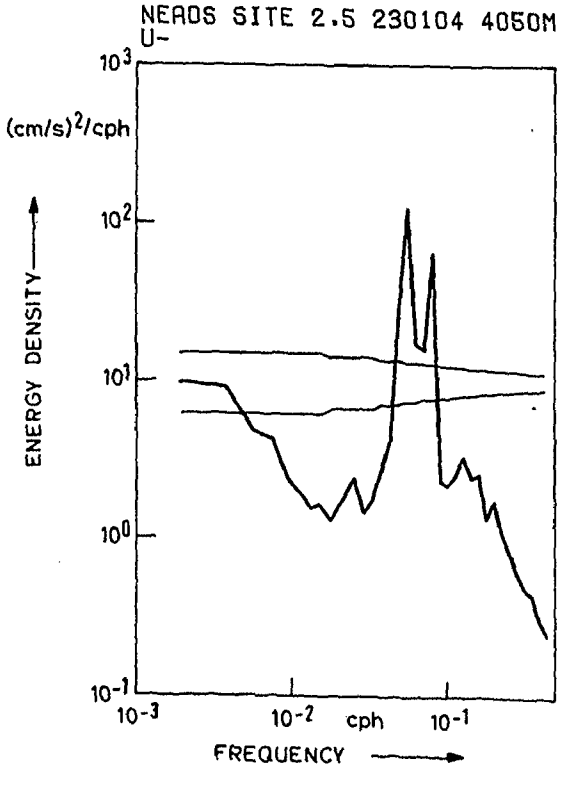

NEADS SITE 2.5 230103 2945M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2.5 230103 2945M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2.5 230103 2945M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2.5 230104 4050M
TEMPERATURE
deg. C²/cph
ENERGY DENSITY
10⁻²
10⁻³
10⁻⁴
10⁻⁵
10⁻⁶
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2.5 230104 4050M
U+
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY


NEADS SITE 2.5 230104 4050M
U-
(cm/s)²/cph
ENERGY DENSITY
10³
10²
10¹
10⁰
10⁻¹
10⁻³
10⁻²
cph
10⁻¹
FREQUENCY

FILE: NEADS SI2.5 485 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 242. NUMBER OF DAYS: 242

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	PRES	[DBAR]	0.4868E+03	0.5282E+03	0.4895E+03	0.3037E+00	0.2232E+02	0.4725E+01	0.5884E+01	0.4159E+02
2	TEMP	[DEG.C]	0.1066E+02	0.1118E+02	0.1092E+02	0.7717E-02	0.1441E-01	0.1201E+00	0.1550E+00	0.1923E+01
3	SAL	[PPT]	0.3548E+02	0.3568E+02	0.3560E+02	0.3204E-02	0.2485E-02	0.4985E-01	-0.5090E+00	0.2500E+01
4	UC	[CM/S]	-0.1120E+02	0.2808E+02	-0.1270E+01	0.3393E+00	0.2786E+02	0.5278E+01	0.2034E+01	0.1202E+02
5	VC	[CM/S]	-0.8255E+01	0.1278E+02	-0.3403E-01	0.2127E+00	0.1095E+02	0.3309E+01	0.4408E+00	0.4826E+01
6	SIGT	[ ]	0.2718E+02	0.2737E+02	0.2727E+02	0.2902E-02	0.2037E-02	0.4514E-01	-0.2939E-01	0.2674E+01

PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
4	5	0.1270E+01	0.1940E+02	0.4405E+01	0.2832E+00	268.46

FILE: NEADS SI2.5 2945 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 202. NUMBER OF DAYS: 202

SAMPLING INTERVAL (MINUTES) : 0.14400D+04

	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2847E+01	0.2917E+01	0.2881E+01	0.1160E-02	0.2717E-03	0.1648E-01	0.1760E+00	0.2481E+01
2	UC	[CM/S]	-0.2832E+01	0.1477E+01	-0.6588E+00	0.6696E-01	0.9057E+00	0.9517E+00	-0.1416E-01	0.2337E+01
3	VC	[CM/S]	-0.1947E+01	0.2762E+01	-0.3135E-01	0.6174E-01	0.7701E+00	0.8776E+00	0.4199E+00	0.3422E+01

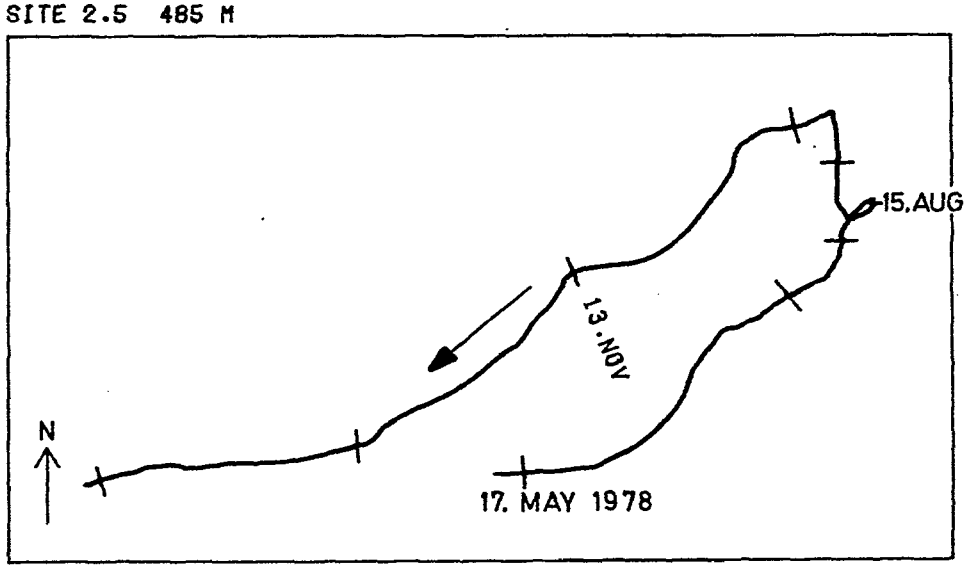
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.6595E+00	0.8379E+00	0.9154E+00	0.6441E-01	267.27

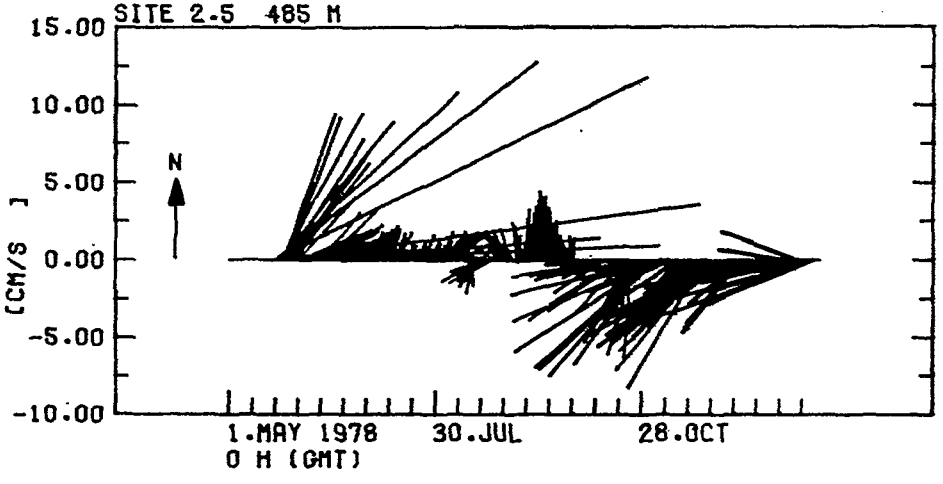
FILE: NEADS SI2.5 4050 m, FILTERED, DAYLY MEANS START-CYCLE: 1. STOP-CYCLE: 242. NUMBER OF DAYS: 242

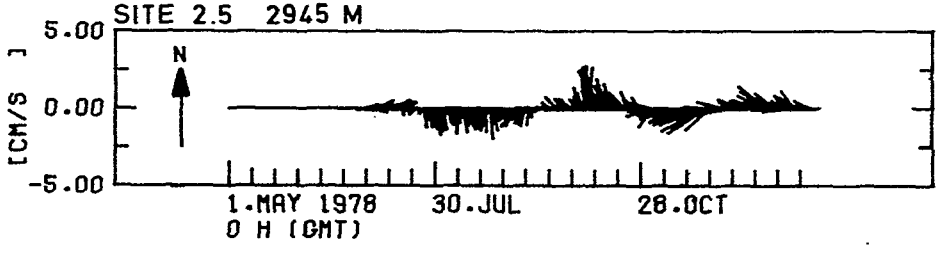
SAMPLING INTERVAL (MINUTES) : 0.14400D+04

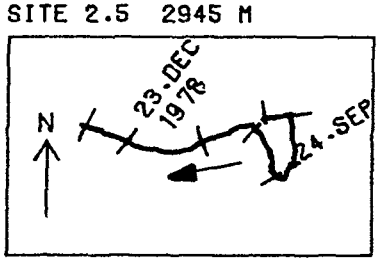
	VARIABLE	UNITS	MINIMUM	MAXIMUM	MEAN	STERMEAN	VARIANCE	STRDDEV	SKEWNESS	KURTOSIS
1	TEMP	[DEG.C]	0.2513E+01	0.2548E+01	0.2531E+01	0.4663E-03	0.5261E-04	0.7253E-02	-0.4442E+00	0.2585E+01
2	UC	[CM/S]	-0.1831E+01	0.4408E+00	-0.5176E+00	0.2438E-01	0.1439E+00	0.3793E+00	-0.1888E+00	0.3371E+01
3	VC	[CM/S]	-0.1243E+01	0.2088E+01	0.7642E-01	0.3209E-01	0.2492E+00	0.4992E+00	0.6944E+00	0.4394E+01

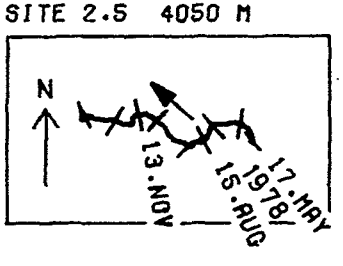
PAIR		VECTOR-MEAN	VECTOR-VAR	STDVECMEAN	VECMEANERR	DIR-MEAN
2	3	0.5232E+00	0.1966E+00	0.4434E+00	0.2850E-01	278.40

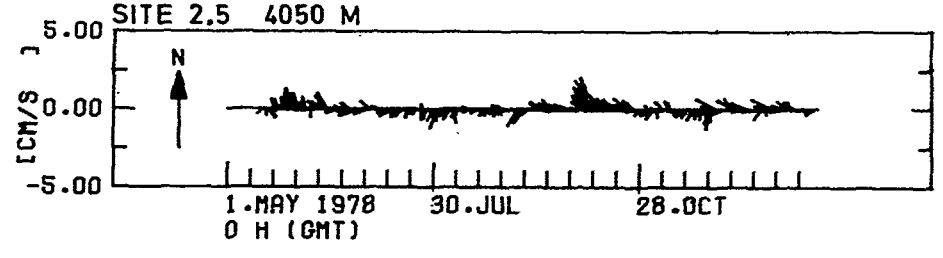

SITE 2.5 485 M
15.AUG
13.NOV
17. MAY 1978
N
150 KM
5 CM/S

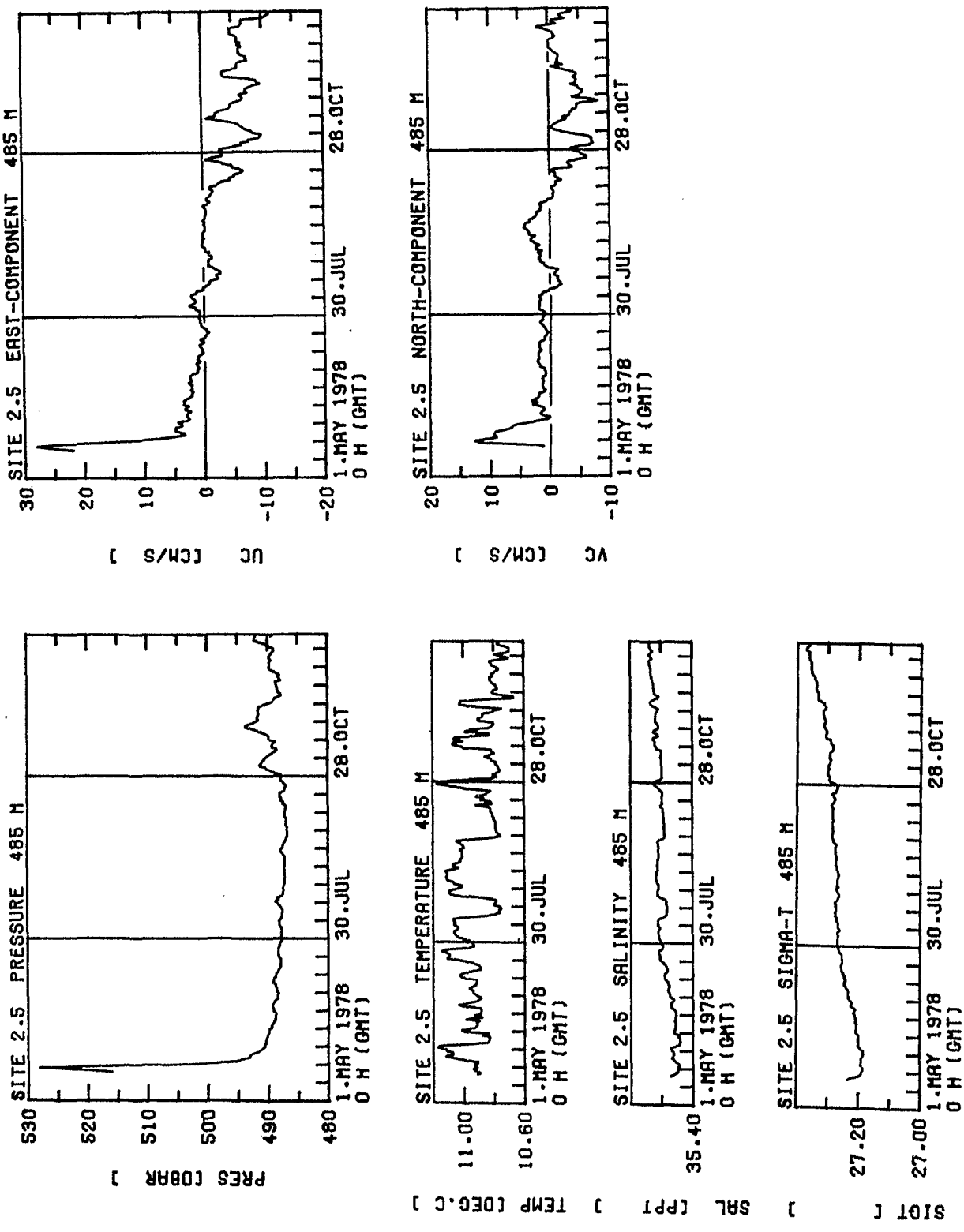

SITE 2.5 485 M
15.00
10.00
5.00
0.00
-5.00
-10.00
[CM/S]
N
1.MAY 1978
30.JUL
28.OCT
0 H (GMT)

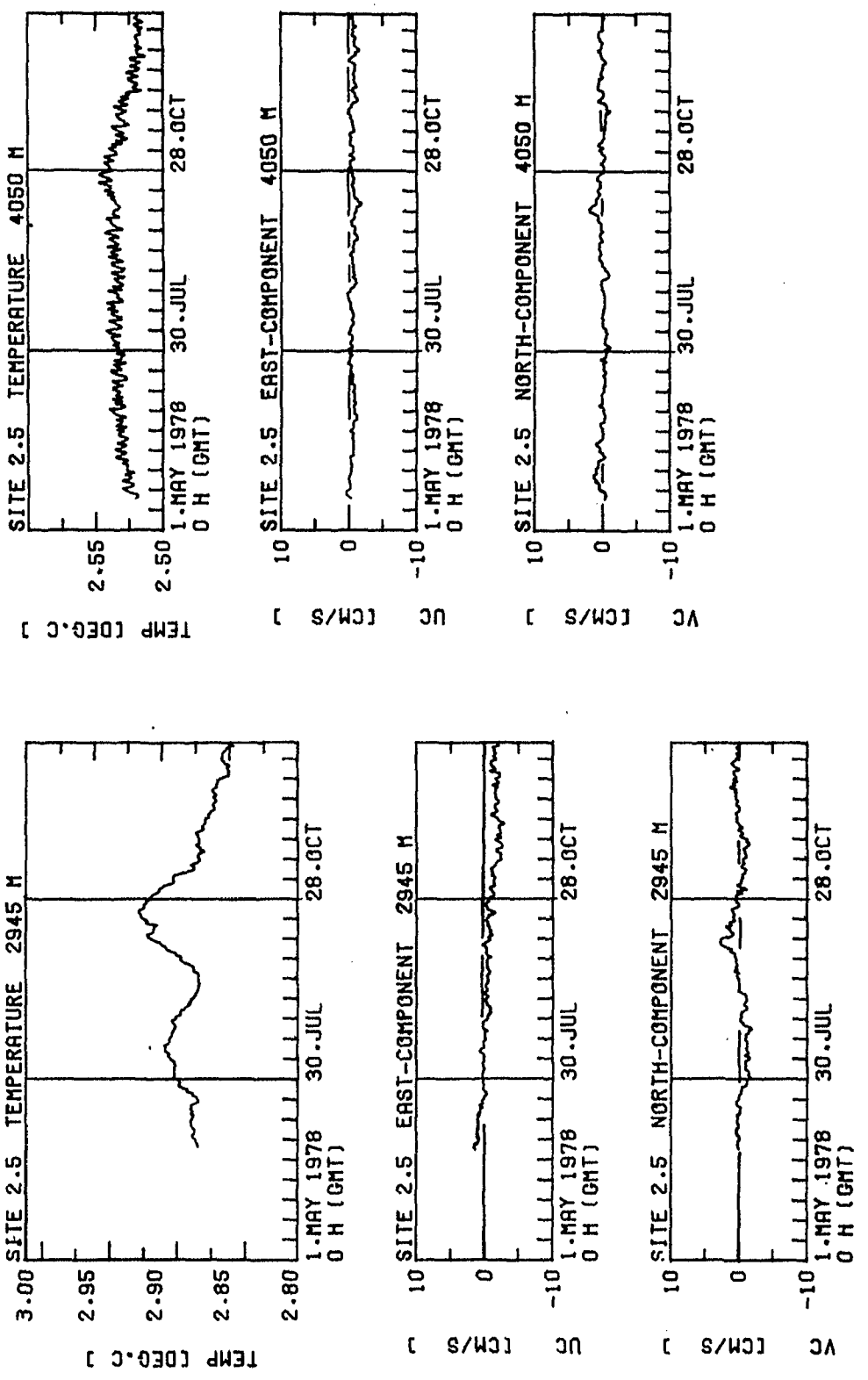

SITE 2.5 2945 M
5.00
0.00
-5.00
[CM/S]
N
1.MAY 1978
30.JUL
28.OCT
0 H (GMT)

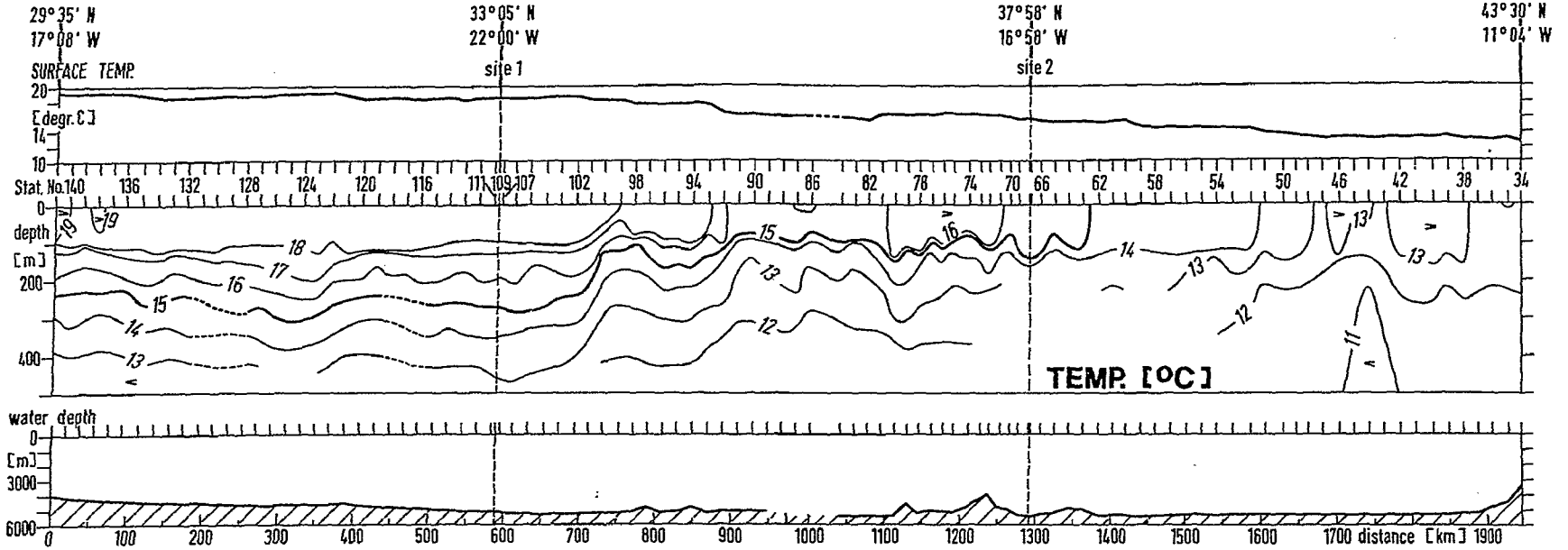

SITE 2.5 2945 M
N
23.DEC 1978
24.SEP


SITE 2.5 4050 M
N
13.NOV
17.MAY 1978/ 15.AUG


SITE 2.5 4050 M
5.00
0.00
-5.00
[CM/S]
N
1.MAY 1978
30.JUL
28.OCT
0 H (GMT)

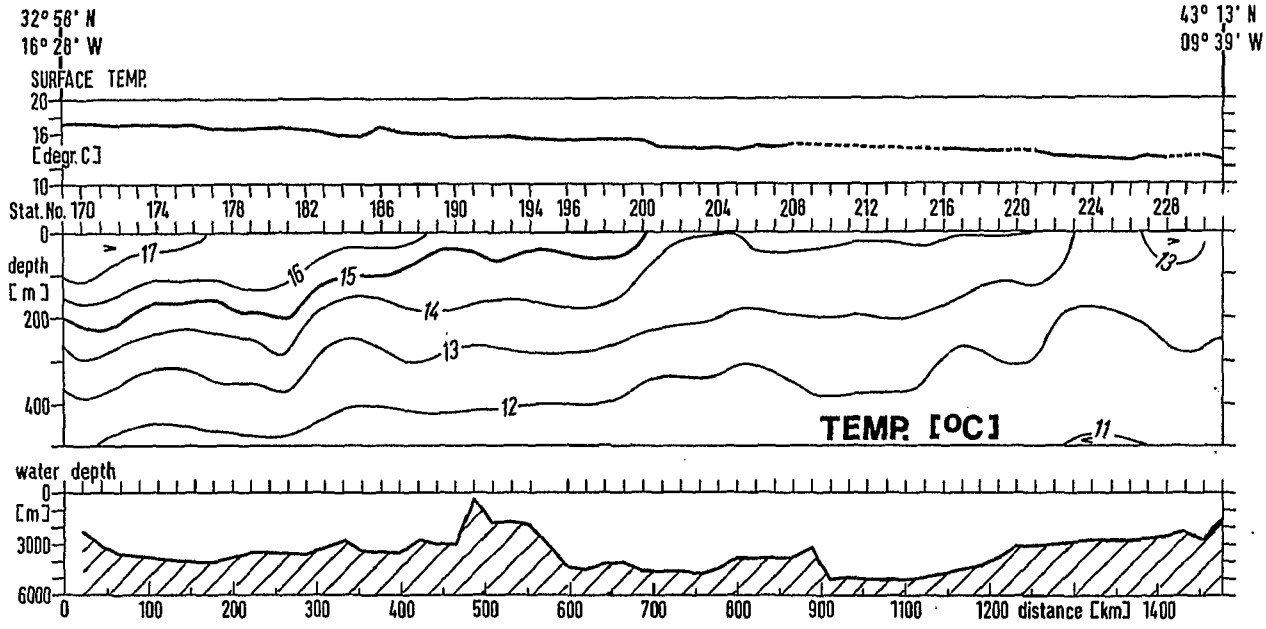

SITE 2.5 EAST-COMPONENT 485 M
UC (CM/S)
30
20
10
0
-10
-20
1.MAY 1978
0 H (GMT)
30.JUL
28.OCT
SITE 2.5 NORTH-COMPONENT 485 M
VC (CM/S)
20
10
0
-10
SITE 2.5 PRESSURE 485 M
PRES (DBAR)
530
520
510
500
490
480
SITE 2.5 TEMPERATURE 485 M
TEMP (DEG.C)
11.00
10.60
SITE 2.5 SALINITY 485 M
SAL (PPT)
35.40
SITE 2.5 SIGMA-T 485 M
SIGT ( )
27.20
27.00


SITE 2.5 TEMPERATURE 4050 M
TEMP [DEG.C]
2.55
2.50
1.MAY 1978
0 H (GMT)
30.JUL
28.OCT
SITE 2.5 EAST-COMPONENT 4050 M
UC [CM/S]
10
0
-10
SITE 2.5 NORTH-COMPONENT 4050 M
VC [CM/S]
SITE 2.5 TEMPERATURE 2945 M
TEMP [DEG.C]
3.00
2.95
2.90
2.85
2.80
SITE 2.5 EAST-COMPONENT 2945 M
SITE 2.5 NORTH-COMPONENT 2945 M

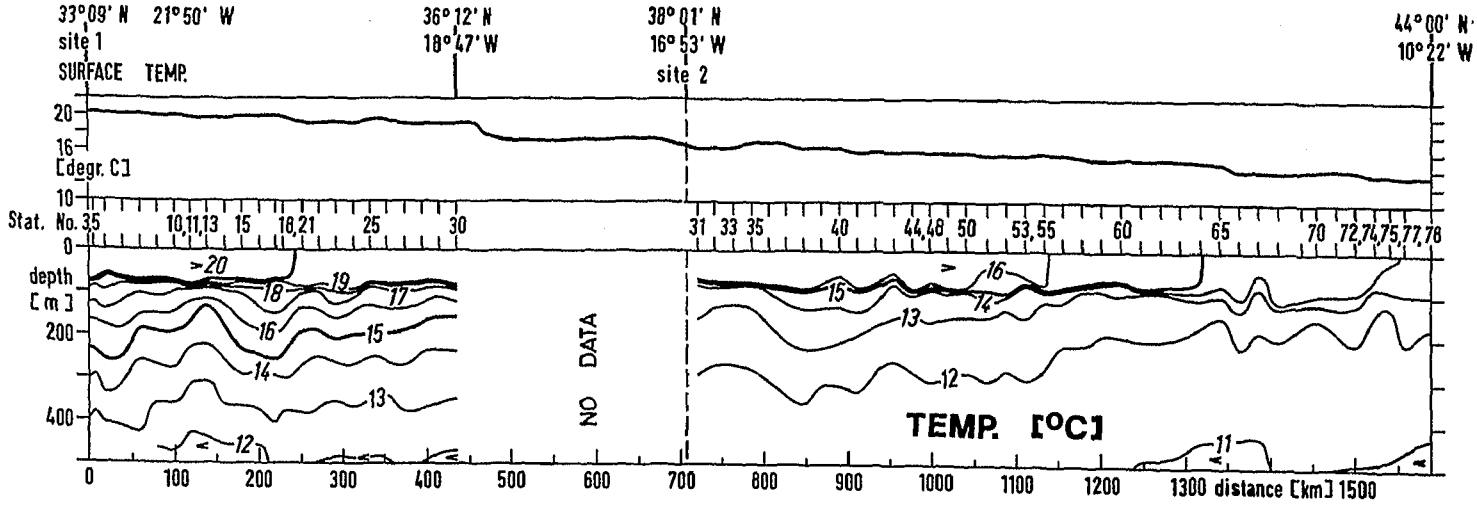


NEADS R.V. METEOR CRUISE 44

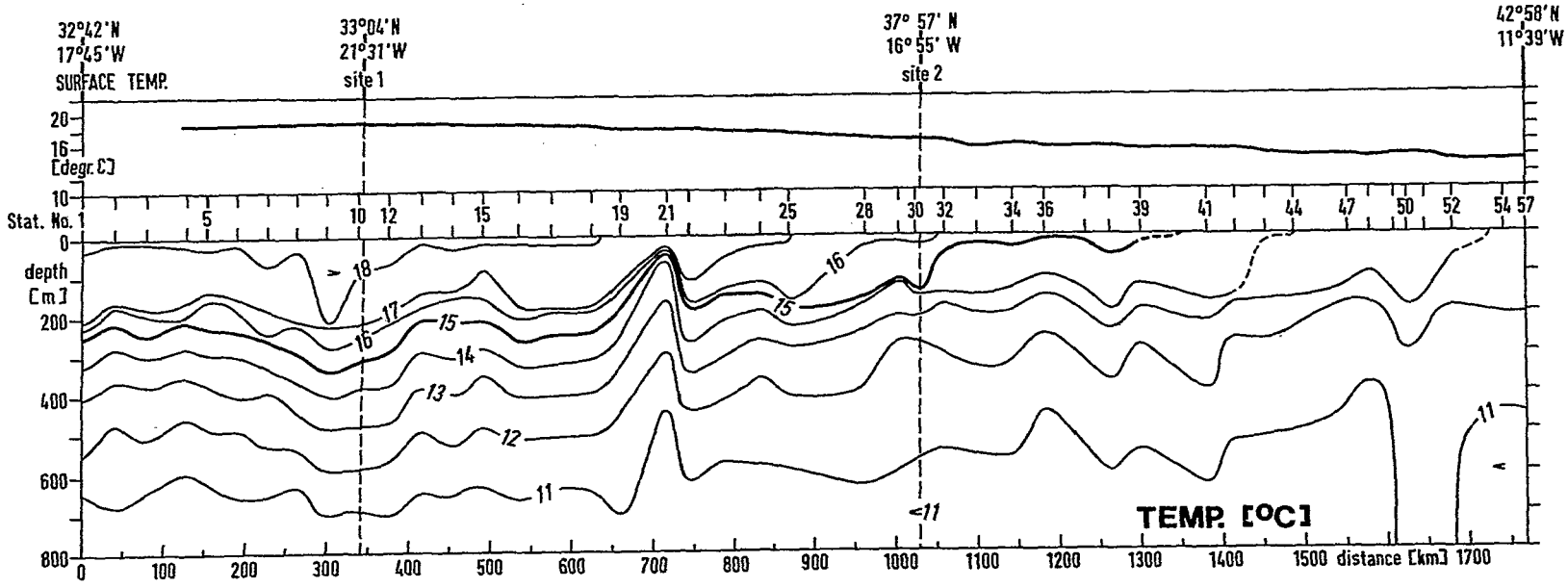
SECTION A XBT TEMP.[degr.] 11-17 JAN 1977



NEADS R.V. METEOR CRUISE 44
SECTION B XBT TEMP. [degr. C] 3-6 MAR 1977

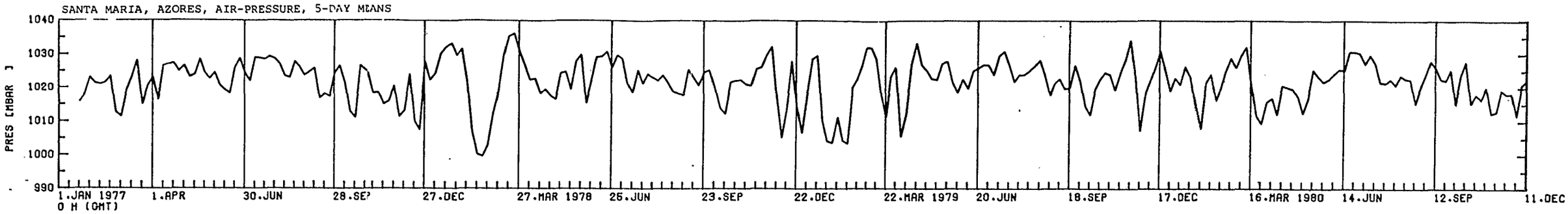


NEADS R.V. METEOR CRUISE 46
SECTION A XBT TEMP. [degr. C] 5 DEC - 10 DEC 1977

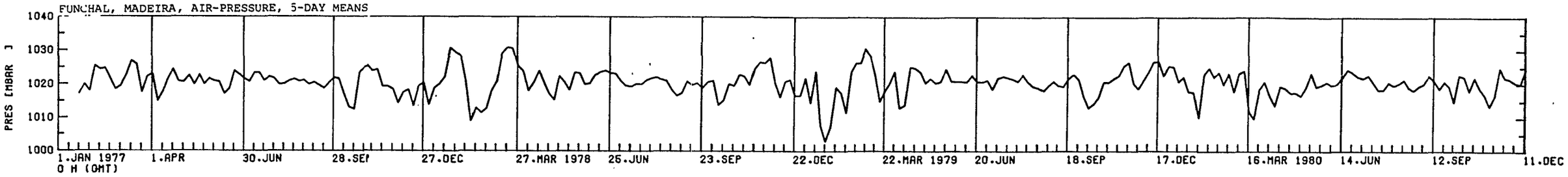


NEADS R.V. METEOR CRUISE 53
SECTION A XBT TEMP. [degr. C] 3 MAR - 4 APR 1977

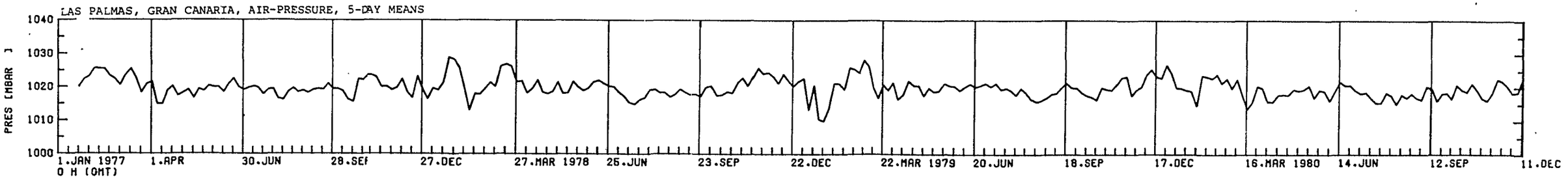
SANTA MARIA, AZORES, AIR-PRESSURE, 5-DAY MEANS



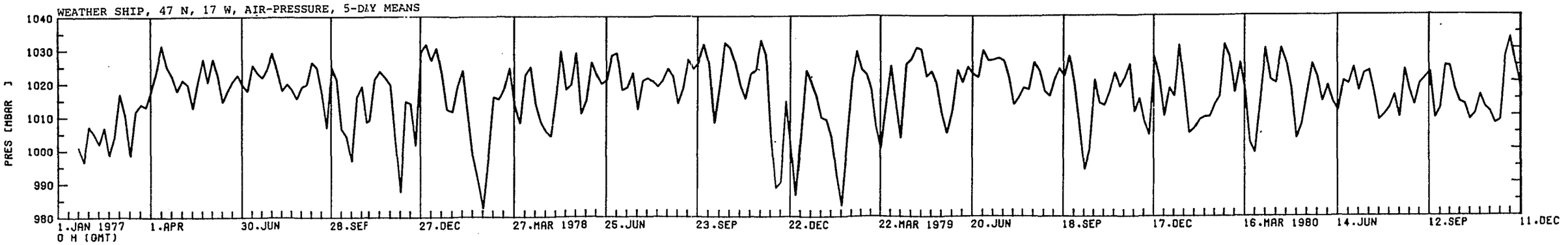
FUNCHAL, MADEIRA, AIR-PRESSURE, 5-DAY MEANS



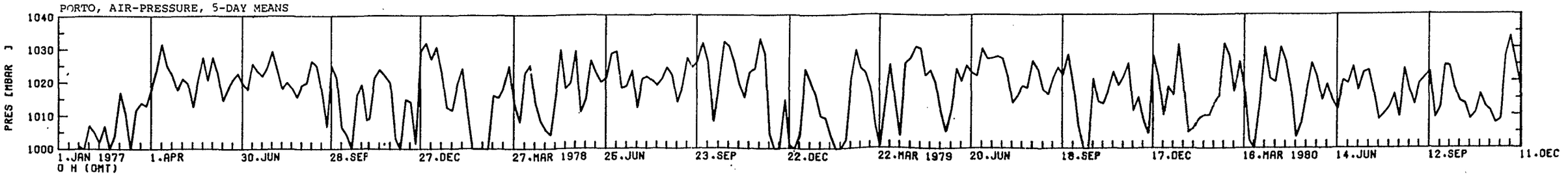
LAS PALMAS, GRAN CANARIA, AIR-PRESSURE, 5-DAY MEANS



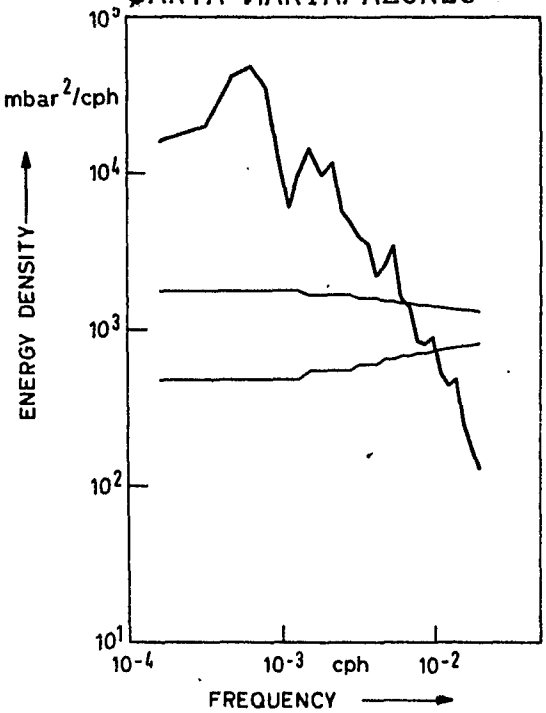
WEATHER SHIP, 47 N, 17 W, AIR-PRESSURE, 5-DAY MEANS



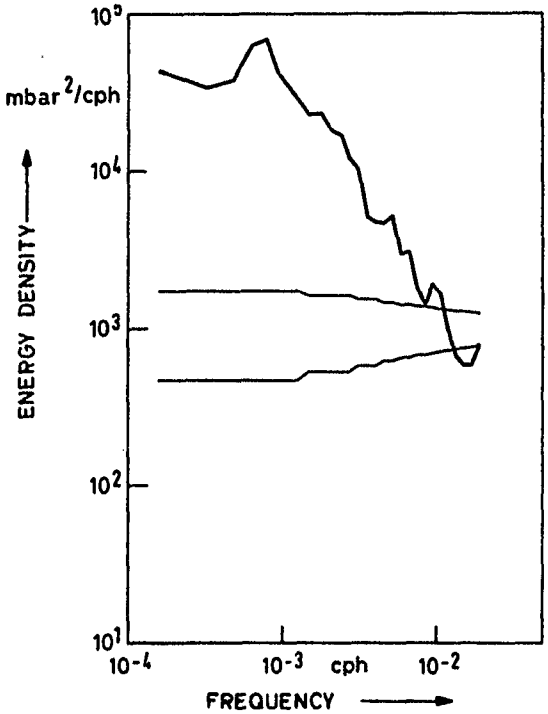
PORTO, AIR-PRESSURE, 5-DAY MEANS



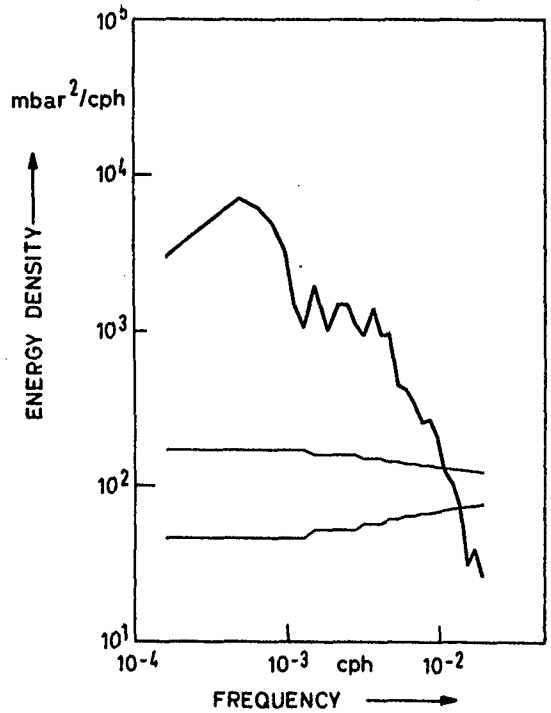
NEADS AIR PRESSURE
SANTA MARIA/AZORES



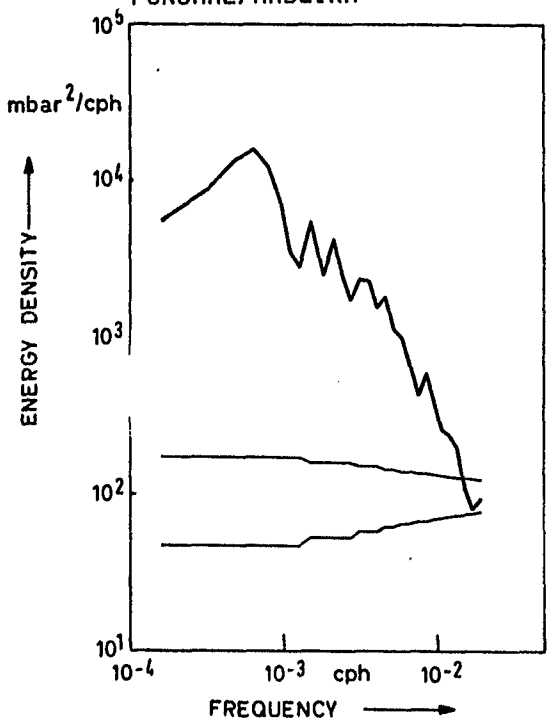
NEADS AIR PRESSURE
WEATHERSHIP R 46N,17W

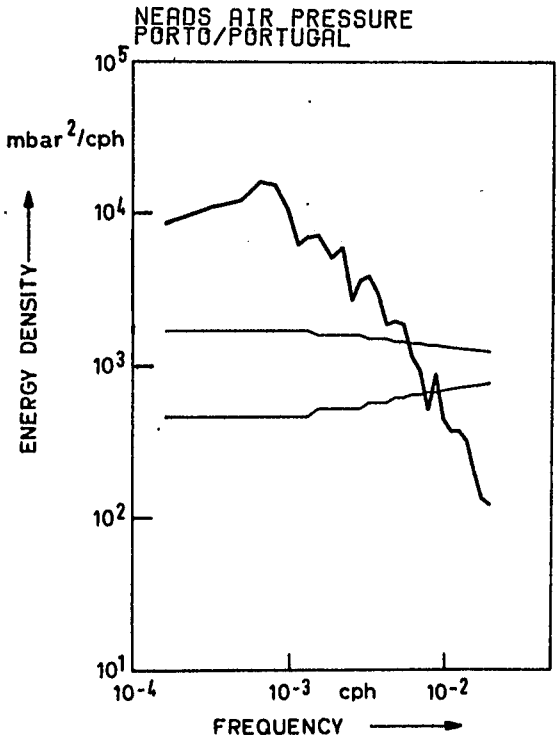


NEADS AIR PRESSURE
LAS PALMAS/GRAN CANARIA



NEADS AIR PRESSURE
FUNCHAL/MADEIRA




NEADS AIR PRESSURE
PORTO/PORTUGAL
mbar²/cph
ENERGY DENSITY
10⁵
10⁴
10³
10²
10¹
10-4
10-3
cph
10-2
FREQUENCY

List of symbols:

Press, P	Pressure (dbar)
Temp, T	Temperature (degr. C)
Sal, S	Salinity (p.p.t.)
Sigt, σ_t	Sigma-t
UC, VC	East and North -component of velocity vector (cm/S)
u_+, u_-	rotary components of velocity vector (cm/S)

Appendix 1: Lanczos Taper:

Let m = 67, m = 127 be the number of weights for lowpass and highpass filter, respectively. Then the filter weights are

$$(1)\quad w(i) = \frac{m}{\pi(i-1)} \sin\left(\frac{\pi(i-1)}{m}\right) \qquad i = 2, 3, \ldots m .$$

Appendix 2: Statistical calculations

THE FOLLOWING QUANTITIES ARE COMPUTED:
(LEFTMOST NAMES APPEAR IN PROGRAM PRINTOUT)

1)FOR EACH VARIABLE OF THE SUBSET

MAXIMUM : MAXIMUM

MINIMUM : MINIMUM

MEAN : MEAN

VARIANCE : VARIANCE

STRODEV : STANDARD DEVIATION

STERMEAN : STANDARD ERROR OF MEAN

SKEWNESS : SKEWNESS
(SHOULD BE 0 FOR NORMAL DISTRIBUTION)

KURTOSIS : KURTOSIS
(SHOULD BE 3 FOR NORMAL DISTRIBUTION)

2)IN CASE THE SUBSET CONTAINS PAIRS ('UC ','VC '),
I.E PAIRS OF U(EAST)-,V(NORTH)-COMPONENT OF HORIZONTAL CURRENT:

VECTOR-MEAN : VECTOR-MEAN

VECTOR-VAR. : VECTOR VARIANCE
II(A MEASURE OF TOTAL KINETIC ENERGY)

STDVECMEAN : STANDARD DEVIATION OF VECTOR MEAN
(A MEASURE OF RMS AMPLITUDE)

VECMEANERR : STANDARD ERROR OF VECTOR MEAN

DIR-MEAN : MEAN DIRECTION OF VECTOR

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    DEFINITIONS AND FORMULAS:

    (X,Y) PAIR OF VARIABLES

    N      = NUMBER OF DATA POINTS OF SAMPLE
    SX     = SUM OVER ALL VALUES OF SERIES X
    SXY    = SUM OVER ALL VALUES OF SERIES X*Y
    SXXX   = SUM OVER ALL VALUES OF SERIES X*X*X
    SXYXY  = SUM OVER ALL VALUES OF SERIES X*X*Y*Y

    MX     = SX/N
    VX     = SXX/N-MX**2
    DX     = SQRT(VX)

MINIMUM      : MIN [X(I)], I=1,N

MAXIMUM      : MAX [X(I)], I=1,N

MEAN         : MX

VARIANCE     : VX

STRDDEV      : DX

STERMEAN     : SQRT(VX/N)

SKEWNESS     : (SXXX/N-3*MX*SXX/N+2*(MX**3))/(DX**3)

KURTOSIS     : ((SXXXX-4*MX*SXXX+6*MX*MX*SXX)/N-3*(MX**4)/(VX*VX)

VECTOR-MEAN  : SQRT(MX*MX+MY*MY)

VECTOR-VAR.  : VV=(VX+VY)/2

STDVECMEAN   : SQRT(VV)

VECMEANERR   : SQRT(VV/N)
```

Appendix 3: Rotary components

According to Willebrand et al. (1977) rotary components u_+ and u_- od the velocity vector are defined by

$$u_{\pm} = \frac{1}{\sqrt{2}} (uc + i\,vc)$$

with uc and vc as it's east- and north components. Their autospectra $E_{\pm}$ are related to the autospectra E_{uu}, E_{vv} and the quadrature spectrum Q_{uv} of the Cartesian components by (c.f. also Gonella, 1972):

$$E_{\pm}(\omega) = \frac{1}{2}\left(E_{uu}(\omega) + E_{vv}(\omega) \pm 2Q_{uv}(\omega)\right); \quad \omega > 0$$

Page guide to graphical presentations

A: Current meters, high frequency analysis

site	depth (m)	mooring identific	Statistics	Spectra P	T	S	u_+	u_-
1	673	184 101	15	17	18	18	18	18
15.01.77-	1585	184 102	15	-	19	-	19	19
05.12.77	3089	184 103	16	-	20	-	20	20
	4770	184 104	16	-	21	-	21	21
	24	264 101	22	25	25	25	-	-
01.04.80-	125	264 102	22	-	26	26	26	26
17.10.80	379	264 103	22	-	27	27	27	27
	673	264 104	23	28	29	29	29	29
	935	264 105	23	-	30	30	30	30
	3085	264 107	24	-	31	-	31	31
	4770	264 108	24	-	32	-	32	32
2	788	203 101	53	-	55	55	55	55
	1668	203 102	53	-	56	56	56	56
08.12.77-	3168	203 103	54	-	57	-	57	57
10.05.78	5079	203 104	54	-	58	-	58	58
	788	229 101	59	-	60	60	60	60
11.05.78-	3168	229 103	59	-	61	-	61	61
02.07.79	4181	229 104	59	-	52	-	62	62
	1668	242 102	63	64	65	65	65	65
02.07.79-	3168	242 103	63	-	66	-	66	66
02.04.80	4181	242 104	63	-	67	-	67	67
2.5	485	230 101	81	82	83	83	83	83
13.05.78-	2945	230 103	81	-	84	-	84	84
16.01.79	4050	230 104	81	-	85	-	85	85

B: Current meters, low frequency analysis

Site	depth	overall Statistics	Time series plots PVD	Sticks	P	T	S	σ_t	u	v
1	673	34	36	37	38	38	38	38	38	38
15.01.77-	1585	35	36	37	-	39	-	-	39	39
05.12.77	3089	35	36	37	-	39	-	-	39	39
	4770	35	36	37	-	40	-	-	40	40
1	24	33	-	-	46	46	46	46	-	-
01.04.80-	125	33	41	43	-	47	47	47	47	47
17.10.80	379	33	41	43	-	48	48	48	48	48
	673	-	42	44	49	49	49	49	49	49
	935	34	42	44	-	50	50	50	50	50
	3089	-	42	45	-	51	-	-	51	51
	4770	-	42	45	-	51	-	-	51	51
2	788	68	70	72	-	74	74	74	75	75
08.12.77-	1668	68	71	72	77	76	76	76	77	77
02.04.80	3168	69	71	73	-	78	-	-	78	78
	4181	69	71	73	-	79	-	-	79	79
	5079	69	71	73	-	80	-	-	80	80
2.5	485	86	87	87	88	88	88	88	88	88
13.05.78-	2945	86	87	87	-	89	-	-	89	89
16.01.79	4050	86	87	87	-	89	-	-	89	89

C: XBT sections, 90, 91 92

CTD, site 1:14

site 2:52

Air pressure, time series plots: 93 (out-fold)

Spectra : 94, 95